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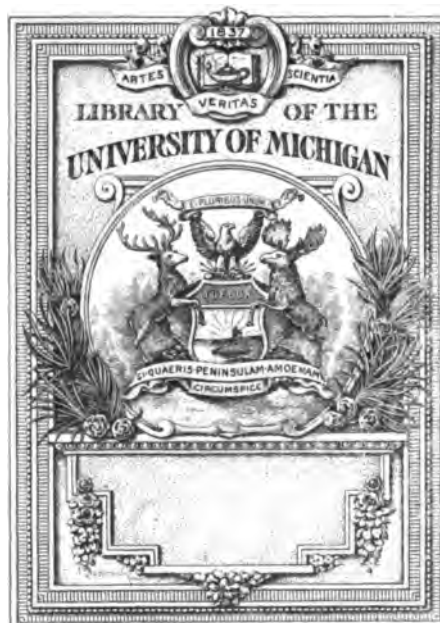
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## Original Lectures.

### LECTURES ON DISEASES OF THE EYE.

By HENRY D. NOYES, M.D.,

ASSISTANT SURGEON N. Y. EYE INFIRMARY.

#### LECTURE VII.

##### DISEASES OF THE LACHRYMAL APPARATUS.

*Diseases of Lachrymal Apparatus.*—The lachrymal sac and nasal ducts are the parts of the derivative apparatus which are most frequently diseased. The primary affection is usually *catarrh* of the mucous membrane.

This may originate from inflammation of the eyelids or of the Schneiderian mucous membrane. It often occurs in young children of a scrofulous constitution simultaneously with *catarrh* of the nasal passages, and it may take place as an acute attack at any period of life. It more usually comes on gradually, its incipient stages being scarcely observed. The secretion of the mucous membrane, which is naturally thick and glairy, becomes more consistent and opaque; it accumulates in the sac, and gives rise to a slight fulness at the inner angle of the eye. Pressure causes the swelling to subside by pushing the mucus into the nostril or into the conjunctival sac. There will be slight congestion of the palpebral conjunctiva. The eye will be filled with tears, and on exposure to wind they will flow copiously over the cheek. The mucous membrane of the sac and duct is swollen and spongy, and the calibre of the nasal duct is diminished. The valvular folds of the membrane become tumefied, and oppose a decided obstacle to the flow of fluid into the nasal fossa. Hence, before organic stricture has formed, pressure over the distended sac will often cause its contents to regurgitate upon the conjunctiva.

Soon, however, the infiltration of the mucous membrane assumes a more organized form, because this tissue is a fibro-mucous layer. Fibrous tissue appears in it, and constitutes a permanent stricture. Its situation may be at any point of the duct, or through its whole extent; its common seat is at the valve which marks the beginning of the duct. The formation of such a stricture is a very slow process, and during this time the patient is more or less annoyed by *catarrh* of the lachrymal sac. The sac becomes more and more distended, and its lining membrane more and more deeply diseased, giving rise to an abundant secretion of muco-pus.

It may attain an extraordinary size—a hazel-nut might in many instances be accommodated within it. Pressure on this tumor evacuates its contents chiefly through the puncta. It may be painless, and continue for a long time in a passive state. But suddenly a new phase presents itself: acute inflammation is set up, and abscess forms. This may occur at various stages of the malady, either before or after the lachrymal sac has become distended enough to deserve the name of mucocele. The abscess forms in the loose areolar tissue around the sac, and soon ulcerates into it. It produces great swelling of the integuments. Especially in the sulcus below the lower lid the skin is tense, red, and hot; pain is severe until the pus has diffused itself in the areolar tissue. The pus tends to run along the loose tissue of the lower lid. If left to itself, the skin finally ulcerates, and the matter is discharged. Relief follows, but this is too often only the beginning of sorrows. From the opening both pus and tears escape, showing a communication with the lachrymal sac. An ulcerated opening is very liable to remain patent, and result in fistula lachrymalis. This becomes not only a disfigurement but a source of continual annoyance. A succession of abscesses may occur; or the opening may close, pus form

again, and make for itself a new exit, the suppurative process continuing for weeks.

A lachrymal fistula is not always an offensive opening, filled with fungous granulations; it may heal so far as to leave but a minute, almost capillary, aperture. Even in this state it gives great trouble. Tears flood the eye, the conjunctiva is inflamed, and use of the eye is almost impossible.

I need not attempt to describe these cases any further. They are of chronic character, and have no tendency towards cure. If the nasal duct is obstructed, and this need be only a partial obstruction, it is the sufficient cause of a long train of annoyances, and of liability to intercurrent attacks of inflammation. Sometimes the nasal duct becomes totally occluded; it may be filled by bony tissue. The mucous membrane may be converted into pyogenic membrane. The lachrymal or maxillary bones may become carious. St. Yves speaks of operating for caries of the bones at the bottom of the orbit, and of the danger of destroying the eye in attempting to cure lachrymal disease.

*Treatment.*—In the early stages of *catarrh* of the lachrymal mucous membrane the disease is easily managed. Astringent or caustic lotions are often applied to the eyelids. They allay the accompanying conjunctival inflammation. The very small quantum which enters the puncta can hardly be said to have a curative power over the lachrymal mucous membrane. To produce an effect upon this surface, an astringent wash must be injected through the canaliculi by Anel's syringe. The passages may first be washed out with warm water, and then the astringent introduced. In more chronic *catarrh*, and where the spongy mucous membrane partly closes the nasal duct, a weak solution of nitrate of silver may be injected, using it from five to ten grains to the ounce. In injecting nitrate of silver solutions through a canaliculus, care must be taken to prevent regurgitation through the other canaliculus, by squeezing it with forceps whose blades are not toothed or too rough. If the fluid can be forced into the nose, and its subsequent injection becomes more and more easy, this proceeding may cure the disease. If, however, there be great difficulty in forcing fluid into the nose, and if there be no improvement after a few trials, the presumption is that stricture of the nasal duct has begun. It always requires considerable force to use the fine-pointed syringe of Anel, and the normal resistance it offers must not be mistaken for resistance in the lachrymal passages.

Upon this presumption of nasal stricture, Mr. Bowman's method of treatment must be adopted: the inferior punctum and canaliculus should be laid open, and a probe inserted into the nasal duct. It is best to begin with No. 3 or 4, as they are less liable to wound the lining membrane. The largest size should be passed that will enter easily. The probe may the first time be left *in situ* for twenty minutes; then the sac and duct may be syringed out. It will often be found in recent cases that the probe will need but a few introductions, at intervals of two or three days, and the astringent or caustic injection will speedily remove the lingering *catarrh*. On the other hand, in more protracted cases the stricture will be found less yielding: it gives a grating sensation as the probe goes through it. The amount of muco-purulent secretion may be small; probe No. 3 or 4 may enter, but No. 5 not without violence. Such a case requires persevering dilatation. Advance from a smaller to a larger size must sometimes be made gradually, at other times rapidly. The probe may be introduced at intervals of one to three days, according to the sensibility of the parts, and may be left in place half an hour at a time. Even where the largest size has been reached, it should be passed a number of times at intervals of a week to prevent contraction of the stricture. There is much the same propensity to contraction in strictures of this canal as in strictures of the urethra. In fact, the philosophy of treatment in the two cases is identical. The time necessary to effect a cure is of course variable: it will be from one month to six months.

The attempt is to restore the tissues to their healthy condition; and to do it the mechanical obstacle (the stricture) must be overcome, and permanently, while the chronic inflammation of the mucous membrane is to be set aside. The mechanical treatment has a great influence in abating the chronic catarrh, because the irritating morbid secretions are thus set free. Often no other proceedings are necessary than passing the probe. Injections are needed only where there is profuse catarrhal secretion distending the lachrymal sac and irritating the conjunctiva.

A few words as to the manner of introducing probes. Each end of the instrument has a different size, and the most convenient kind has a shield soldered to the middle, upon which the numbers are stamped, and which enables the probe to be handled more readily. The sizes were originally from one to six. I have found that larger probes can be passed, and have added Nos. 7 and 8. These large sizes require the canaliculus to be divided quite up to the lachrymal sac.

In using the probe it must be curved to correspond with the configuration of the face. Simply bending it for half an inch from its tip is not enough, neither is the same curve adapted to all cases. The height of the nose and the prominence of the brow will greatly alter the depth and course of the lachrymal duct. The probe then must have a large curve, that is, it should be an arc of a circle whose radius will be shorter or longer as the case requires. The larger sizes, from 5 to 8, must be of pure silver; the smaller sizes should be alloyed to give them stiffness. It is better to stand behind the patient, with his head resting against your person: tell him to look upwards; draw the lower lid downwards and outwards with one hand, and with the other use the probe. The concave side of the probe must be kept forwards, the point carried horizontally along the divided canaliculus until, entering the lachrymal sac, it strikes against the opposite bony wall. It is sometimes difficult to get thus far—the mucous membrane of the canaliculus may be folded over the probe, or the passage may be too narrow. When this is the case the skin of the lid will be wrinkled and pushed inwards as force is applied to the instrument. To avoid folds of the mucous membrane it is well to make the point of the probe press forward as it is pushed along. If the passage be too narrow, it must be cut with the knife, or a smaller size taken. If the point strike the inner wall of the lachrymal sac (and this will be recognised by its solid resistance), it should be held fixed while the other end is brought to the vertical position. When this change is made, and not until then, should the probe be pushed downwards. If it has been properly curved, it will not press against the brow in going down, nor meet any resistance except from the stricture. But if the probe be too straight, it presses painfully against the eyebrow, the point scrapes the mucous membrane of the nasal duct, and there will be great risk of making a false passage. In pushing the probe downwards its point should be directed a little outwards towards the *ala nasi*. In following these rules strictly, as to direction and shape of the probe, considerable force may be safely employed, but no violent efforts should be made. If one probe will not pass readily, try a smaller size. When the probe is fully down the shield comes opposite the eyebrow, and the probe points to the *ala nasi*. If the upper end pitches forwards, or the direction deviates from the above, a false passage has been made. This begins usually at the top of the nasal duct, and is made outside of the superior maxillary bone, under the tissues of the cheek. Fortunately, no serious harm is thus inflicted, if the mistake be not persisted in: the wound will heal in a few days, and the attempt may be repeated. Echinymosis of the lid or cheek often betrays this error.

The intermittent dilatation by probes must be persevered in for weeks and months—the intervals becoming longer as the tendency to relapse diminishes. Very satisfactory results are thus obtained. Patients sometimes get tired of repeated probing, and when they have been on the point

of giving up treatment in disgust I have resorted to another method of accomplishing dilatation of the stricture. I have taken a piece of lead wire of the same size as the probe which can be passed, rounded one end to make it smooth, and pushed this into the nasal duct; the upper end is bent at an acute angle, and hangs over the edge of the lower lid. This I have left *in situ* for one day or three days, and in one case for three weeks, without producing irritation of the eye. The stricture was kept dilated, and the epiphora ceased. I should not employ this method except on patients whom you can see at any time; but a few trials of it have given me a favorable impression of its value in shortening the duration of treatment and in making the dilatation more permanent.

This process of dilatation sometimes needs to be continued with astringent applications to the mucous lining of the sac, by a fine syringe, or by collyria dropped into the eye. More frequently such treatment is needless; the catarrhal inflammation abates, *pari passu*, as the obstruction yields.

*Phlegmonous inflammation and abscess* may take place either with or without stricture of the duct. When first it threatens it may be aborted by applying two to four leeches over the sac, and by the assiduous use of iced compresses. If suppuration cannot be avoided, employ warm fomentations, and make an incision into the sac as early as possible. I would urge the importance of an early opening; if no pus appears, the tension of the tissues is relieved, and the bleeding is serviceable: when suppuration shall take place it will not undermine the skin, as it is prone to do when left to its own course. Be not stinted in the size of your incision, and aim to penetrate the sac. The best mode of doing the operation is to stand behind the patient, who will be on his back or sit in a low chair, and use a straight bistoury. Put the point as nearly over the middle of the *tendo oculi* as the swelling will enable you to judge, holding the handle perpendicular to the plane of the face and turned a little outwards; thrust the point quickly backwards, so as to strike the lachrymal bone, and immediately carry it downwards and outwards. If the patient's head suddenly starts up as the knife enters, his movement makes the cut larger and aids your purpose.

An abscess which opens by ulceration, or which has been too sparingly incised, is apt to fill up again, and require repeated incision. Sometimes it will linger along in this way for two or three months. It is then apt to degenerate into fistula lachrymalis. Fistula is not so likely to occur when an abscess is opened early and sufficiently. The cutaneous orifice of a fistula may be concealed by a thin layer of cuticle, or it may be pouting with fungous granulations. It may in time cicatrize, and contract to a capillary opening. The course of the fistula is sometimes crooked, but there is generally no difficulty in passing a probe through it into the lachrymal sac. If the fistula be recent, it may be closed by cauterizing it once in two or three days with a pointed crayon of nitrate of silver. Such are made by Squibb. But if the fistula be old, and in every doubtful case, there must first be an exploration of the nasal duct and lachrymal sac to decide upon their condition. If their calibre and lining membrane are or may be made normal, then try to close the fistula. If there be a stricture, dilate it with probes *per vias naturales*, slitting up the canaliculus: do not attempt to dilate stricture through the fistula. But if the nasal duct be the seat of an unconquerable stricture, or be closed by ossific growth; if the lachrymal sac be enormously dilated, and its mucous lining have become a mere pyogenic membrane; if there be caries of the adjacent bones; if fistula have lasted a long time; or if a patient cannot spare the time which may be needful to restore the passages to a healthy state—another proceeding must be adopted. This is the obliteration of the lachrymal sac and upper portion of the nasal duct. Tavignot adopts the obliteration of the canaliculi alone, but I do not deem this sufficient, certainly not in bad cases. This proceeding was in use a hundred years ago—it is de-

scribed by St. Yves. In late years it has been revived by Desmarres, and it is now very generally adopted. But you will ask me—If you totally occlude the sac and duct, what will become of the tears? Will not epiphora be more distressing than ever? Bear in mind that you have an incurable disease of the passages; they are in a state of perpetual inflammation; they keep up chronic conjunctivitis, and reflect irritation upon the lachrymal gland. Hence there is a constant hypersecretion of tears, as well as obstruction to their natural escape.

If you destroy the inflamed lachrymal mucous membrane, and shut up the cavity which is the seat of disease, you remove the cause which provokes chronic conjunctivitis and excessive lachrymal secretion. Soon the conjunctiva recovers a healthy state, and tears cease to flow more than to meet the physiological demand. The fluid for moistening the eye is ordinarily supplied by the conjunctiva, and a slight excess is evaporated. When in the house, or where nothing irritates the eye, a patient is entirely comfortable; but when exposed to wind or dust, and tears flow more freely, they must stand in the conjunctival sac, or overflow the cheek. In the latter case a patient with obliterated lachrymal sac suffers inconvenience. But this is admitting, what is true of a multitude of surgical operations: they do not restore the perfect performance of function, they only mitigate an evil. Resected joints are not so good as healthy joints, but they are far better than ankylosis.

But you will ask—Why not insert a style? Simply because a style answers no better purpose than does occlusion of the sac. It is a foreign body, an unsightly object, and an annoying thing to wear.

Dupuytren's tubes are far worse than styles: they become impacted in the nasal duct, and by causing absorption of adjacent bony walls they sometimes travel far out of their intended place, and often provoke serious suppuration. They are utterly out of use. A similar but less amount of mischief attaches to the style as being a foreign body, while obliteration of the sac and duct accomplishes at least all that the style can.

Another objection may be made, in the supposed deformity which such an operation must cause. A scar is left at the inner angle of the eye, which is sometimes sunken, but is always linear, and is never conspicuous. I have done the operation upon the lachrymal sacs of a young lady of seventeen years, without at all marring the beauty of her fair face.

The mucous membrane of the lachrymal passages may be destroyed in a variety of ways. The most elegant method is by the galvano-caustic—but the apparatus is expensive, and very liable to get out of order. The actual cautery is used more frequently than any other proceeding; then a variety of potential cauteries are used, such as nitric acid, caustic potash, butter of antimony, chloride of zinc, and nitrate of silver. In the Infirmary we resort usually to the hot iron. The cauteries are of various shapes, bulbous or pointed, and one is bent at an obtuse angle within two inches of the point, to enable it to be thrust down into the nasal duct without burning the skin of the brow. It also has a bulb for retaining its heat. The irons are heated most conveniently in a dentist's furnace lamp. They should not have more than a very dull red heat; it is better that they should not be at all red, than be too hot.

It is always necessary to use an anæsthetic, and for this operation I prefer sulphuric ether. The sac is laid freely open from its uppermost part across the tendon of the orbicularis, down a little distance upon the cheek. The incision must be at least an inch long, and its lower end curve outwards a little. When the sac is fully exposed, wait for the bleeding to stop—ice may be applied to save time. The operation is much delayed by the copious bleeding which always occurs from capillary vessels; I have attempted to check it by persulphate of iron, but was more embarrassed by the coagula than if I had not used it. It is better to trust to ice and pressure and spontaneous coagulation. When the wound is dry, have it stretched

open by retractors. These may be sharp hooks to catch the skin, or leaden spatulae. It is well to use one leaden spatula which will at the same time cover the eyeball from harm.

The cauteries are applied carefully to the whole of the sac, and to as much of the nasal duct as can be reached, until the mucous membrane is well blackened. It is also well to introduce a fine cautery into the canaliculi, but is not always necessary.

Sometimes the reaction from the operation is smart. I have seen acute conjunctivitis and chemosis follow; there will always be considerable swelling of the lids. But generally the inflammatory reaction is moderate. Compresses dipped in iced water are the proper dressing.

The cauterization may not have been thorough, and a small fistulous opening will, after three or four weeks, remain. Unless the cavity is totally obliterated, the operation will be fruitless. If there should be a remaining pocket, a bit of solid nitrate of silver may be pushed into it and left there. This will usually suffice.

The heated iron produces less reaction than nitric acid or caustic potash; it can be more carefully managed, and it is not so liable to cause superficial necrosis of the bony walls. But in private practice the actual cautery would be looked upon with horror, and you may have to employ nitric acid or potassa fusa.

Even solid nitrate of silver is said to be adequate: a piece is put into the sac, and left to dissolve. After a week or two another piece is thrust in, and this is repeated until occlusion is obtained.

You need not be alarmed if the bony walls should be denuded, and superficial necrosis occur. The healing will be protracted, but I have never seen serious ill effects result.

The time required for a cure by the actual cautery is about four weeks. I can only repeat that the operation affords great relief, that it has in almost all cases been gratifying to myself, and that, while some objections to it are unfounded, those which do lie against it are such as may be urged against many well established surgical operations.

One remark remains to be added. In young children you are often unable to employ operative treatment—probes and occlusion of the sac are out of the question. You may effect much by giving them cod-liver oil, iodide of potassium, by using astringent collyria, and by invigorating the general health in every practicable way.

Adults are sometimes averse to operative interference. You can alleviate the annoyance of their complaint by showing them how to empty the distended sac and avoid irritating the eye. Teach them to press with their fingers or handkerchief upon the lachrymal sac, and absorb the fluid which regurgitates by simple pressure, without rubbing the eyelids. Friction of the eyelids is very irritating, while gentle pressure empties the sac, dries the eye, and gives relief. It is important to keep the sac empty—accumulation of mucus aggravates the inflammation and irritates the conjunctiva.

**STATISTICS OF THE GLOBE.**—The following curious facts are stated by the *Abeille Medicale*:—The earth is inhabited by 1,288 millions of inhabitants, viz. 369,000,000 of the Caucasian race; 552,000,000 of the Mongolian race; 190,000,000 of the Ethiopian; 1,000,000 of the American Indian; and 200,000,000 of the Malay races. All these respectively speak 3,064 languages and profess 1,000 different religions. The amount of deaths per annum is 333,333,333, or 91,954 per day, 3,730 per hour, 60 per minute, or one per second. This loss is compensated by an equal number of births. The average duration of life throughout the globe is 33 years. One-fourth of its population dies before the seventh year, and one-half before the seventeenth. Out of 10,000 persons only one reaches his 100th year; only one in 500 his 80th; and one in 100 his 65th.

## Original Communications.

### A SHORT ACCOUNT OF THE "MARY ANN" HOSPITAL, GRAND GULF, MISS.

WITH A BRIEF DESCRIPTION OF SIXTEEN CASES OF AMPUTATIONS  
TREATED IN THAT HOSPITAL.

By JAMES BRYAN, M.D.,

SURGEON U.S.V., IN CHARGE.

THIS institution was organized by the introduction of patients from the field after the battles at Grand Gulf, Port Gibson, and the vicinity, from the first to the fifteenth of May, 1863. It was almost entirely a field hospital, located on the slope of a prominent bluff occupied as a peach orchard. The buildings consisted of a central dwelling and several outhouses, formerly used as kitchens and quarters for the negroes. Its exposure was southwest, and though subjected to the intense rays of the sun, the heat was much mollified by a continual breeze from the river, especially at night. The population of the institution during my administration was from eight hundred to one thousand persons; the nurses were partly enlisted men, and partly female contrabands. The other attendants were composed about equally of each of these classes. The medical staff was as follows:—James Bryan, Surgeon U.S.V. in charge; T. A. Worrall, Surgeon U.S.V.; — Van Brunt, A. Surg. U.S.V.; J. M. Cowan, A.S. 77th Ill. Vols.; L. Dyer, A.A.S.; H. H. Littlefield, A.A.S.; Chas. A. Edgar, A.A.S.; Chas. Miller, A.A.S.; Thomas Spann, A.A.S.; Thomas C. Cox, Med. Cadet.

The medical and commissary supplies of the hospital were far from being abundant, the latter, however, pretty well made up by our foraging parties. Fresh beef particularly was in abundance.

The patients were drawn exclusively from western and south-western regiments, and were fine specimens of muscular young men. The best water for drinking purposes which we could obtain was from the river, which was very muddy, and sometimes fetid. The spring water of the vicinity (and there were no wells) was sulphurous, and contained salts which produced diarrhoea and pain in the bowels as soon as used. The residents of the neighborhood were uniform in declaring the danger in using this water. The cisterns of the vicinity were most of them spoiled, so that our supplies of water were exceedingly meagre. Among our patients we daily found a large increase of contrabands, who crowded to the post in great numbers, so that it was necessary to establish a hospital expressly for their treatment. On the second of June we received orders from the commander of the post, Col. Geo. E. Bryant, of the 12th Wisconsin Vols., to remove the whole hospital up to Young's Point or Milliken's Bend. On the third the whole "chebang" was removed on board the "Forest Queen," and started for Young's Point. We will not speak of the transportation in army wagons of these poor sick men, over a corduroy road, three miles long, through a hot sun, etc., etc., which were the results of military necessity, as we were surrounded by the booming of cannon and explosion of shells all the time.

The following are a few of the cases which happened in this hospital:—

**CASE I.—Amputation of the Right Shoulder-Joint.**—Eli Baker, private, Co. G, 19th Kentucky, a farmer. This was a gunshot wound of the upper part of the arm, shattering the humerus. The amputation was at the shoulder-joint, and had been performed nearly after the manner of Larrey, with an anterior V-flap, embracing the deltoid muscle. The wound had healed in large proportion by the first intention, the operation having been performed on the first of May, the day of the battle of Port Gibson. The patient is

doing well, the ligatures having been all removed. The last was taken away on the twenty-fifth day after the amputation. Age of patient, 21 years.

**CASE II.—Amputation of the Left Arm near the Shoulder-Joint.**—G. Stryker, private, Co. G, 42d Ohio Vols. This was performed on the same day as the last, the wound having been received in the same battle. At the present writing, thirty-four days after the operation, the condition of the patient is as follows:—the operation was by double flap, and the bone sawed off about an inch below the tuberosities of the os humeri. The wound has now entirely healed, the last ligature having been removed on the twenty-third day. The surfaces united almost entirely by the first intention. The patient was apparently a young farmer, 21 years of age, and in good physical condition.

**CASE III.—Amputation of Right Arm, Lower Third.**—Levi H. Keplinger, corporal, Co. E, 42d Ohio Vols., by occupation a harness-maker. The operation was by double flap (a very long flap). The present condition of the wound is as follows:—It has entirely healed; last ligature taken away about the twenty-eighth day; the wound healed in a great measure by the first intention; physical condition good. In this case the flap was unusually long, and had to be supported by mechanical apparatus, on account of the dragging weight upon the end of the bone. The patient will probably, sooner or later, apply for another operation, to remove the excess of tissue which now incommodes him.

**CASE IV.—Amputation of Right Arm, Middle Third.**—Joseph Andrews, private, Co. K, 42 Ohio Vols. This wound was dressed as the others were, with simple cerate, adhesive straps, and rollers kept wet continually with cold water. The ligatures have all come away, and the wound has entirely healed, and the patient is in good condition.

**CASE V.—Amputation of Left Arm, Upper Third.**—A. C. Bragg, private, 2d Ohio Battery. Not much is known about this patient. He came to us on the twelfth inst., from the Grant Hospital, with his wound in a bad condition, and his general health impaired. It was immediately dressed with simple cerate and adhesive straps, with rollers, and with cold water. On the thirteenth the wound was carefully cleansed and re-dressed, the application of cold water being continued, as was the general practice in the hospital in all such cases. On the fourteenth the wound was again dressed, and the patient being in a sinking condition was placed upon tonics and stimulants. On the fifteenth the stump became rapidly gangrenous, and at eight o'clock P.M. the patient died. The heat of the weather was intense, and great difficulty was found in guarding this and many other cases from the intrusion of the ova of flies. To remedy this difficulty, some of our larger and more open wounds were dressed with cold tar-water, the results of which will be mentioned in another place.

**CASE VI.—Amputation of Upper Third of Right Arm.**—Adam Gandy, corporal, Co. K, 46th Ind. Vols. This was a case of gunshot wound of the lower third of the arm; the operation was by double flap, and primary. This patient came from Grant Hospital, and was treated in the usual way. During the progress of the case the sutures, on account of the inequality of the flaps, had given way, and left the wound open; the posterior flap being much the largest, a good deal of difficulty was experienced in bringing the lips together; this, in fact, could not be done, the posterior hanging an inch and a half below the anterior one. The wound has nearly healed up, by granulation chiefly, and the last ligature came away on the thirty-second day; a slight purulent discharge continues; patient doing well.

**CASE VII.—Amputation of Upper Third of Left Arm—Secondary.**—John Van Keuren, sergeant, Co. H, 21st Iowa. This patient entered the hospital on the 12th of May from the Grant Hospital. The patient stated that a round ball had struck his arm about three inches above the condyle, fracturing the bone, and leaving one or two comminuted pieces with the bullet itself still in the wound. An inci-

sion had been made, the bullet and pieces of bone removed, the lips of the wound closed by adhesive strips, the arm placed upon a pillow, and the injury dressed with cold water. The strong peculiarity in the case, when first seen by us, was the excessive pronation of the forearm and elbow; the patient could not bear to have it changed. To meet this and a slight shortening of the arm which existed, splints were applied as in ordinary fracture. The patient, however, removed these, and the arm returned to its former position. The swelling and infiltration continued to increase from day to day, and it was resolved in consultation to amputate the arm. This was done on the 31st of May, by double flap operation. It was performed by Dr. Littlefield. Before the administration of chloroform, which is the common practice in this hospital, from one to two ounces of brandy were given, and the same dose repeated after the operation. The surgeons found the tissues more infiltrated than was expected, making it necessary to diminish the under flap by excision. The general health and spirits of the patient are good, and we hope for the best.

On examining the arm after amputation we found that the extraordinary extent of pronation was due to the direction of the surfaces of the fragments, upper and lower, the obliquity being due to the loss of one or more pieces of the point struck by the ball.

**CASE VIII.—Amputation of Upper Third of Right Arm.**—Henry E. Stewart, corporal, Co. K, 46th Indiana Vols. Admitted May 3d. As far as we can learn this patient did well.

**CASE IX.—Amputation of Middle Third of Right Arm.**—Wilson Lester, private, Co. I, 69th Indiana Vols. Admitted May 12th. Dressed in the usual manner, and patient did well.

**CASE X.—Amputation of Upper Third of Left Arm.**—Peter Young, private, Co. A, 19th Kentucky Vols. This patient entered our hospital on the 7th with a gunshot wound of the elbow-joint. The condyles of the os humeri, as was found after the operation, were denuded of periosteum, and the olecranon process broken into fragments. No splints had been applied when he entered the hospital. The arm was placed upon a pillow, and dressed with cold-water dressing from the 7th to the 29th of May. During this period several pieces of bone were extracted from the wound, which appeared to be pieces of the olecranon process. On the 29th, the arm not improving, and the weather being very warm, it was resolved to amputate, which was done by double lateral flap, by Dr. Lewis Dyer, assisted by the rest of our medical staff. On the 6th of June the wound was healing nicely, and the patient was sent to hospital at Milliken's Bend.

**CASE XI.—Amputation of Right Forearm, three inches above the Wrist.**—E. B. Cox, private, Co. K, 69th Indiana Vols. Admitted May 12th. The operation was primary, and by double flap. The stump in this case took on inflammation once or twice, without much tendency to suppuration. The last ligature came away about the twenty-fifth day, after which the wound healed slowly. The application of resinous cerate was found useful. The patient's age and a strong tendency to intermittent fever made the use of tonics and anti-periodics necessary; quinine and Dover's powder were freely used, and the patient finally did tolerably well. Of course he is no longer fit for the service.

**CASE XII.—Amputation of Upper Third of Right Thigh; Double Flap; Operation Primary.**—Jason L. James, corporal, Co. C, 18th Indiana. Previous history, as in most of the other cases, but little known. The case was treated with adhesive strips, rollers, cold water, sometimes with simple cerate or ol. olivæ, and sometimes with cold tar-water as an antiseptic and prophylactic against the ova and larvae of the fly. Nothing noteworthy occurred with this patient during his connexion with the hospital, a period of three weeks, except that reparation was almost entirely by granulation, and even this was not a peculiarity distin-

guishing it from other cases of amputation, as the restorative process in almost every case was by new formation, whether of the superior or inferior extremities. The patient when sent up the river was in a fair way to recover.

**CASE XIII.—Amputation Right Thigh Upper Third—Circular—Secondary.**—Henry C. Davis, private, Co. I, 46th Ind. This was a case of gunshot wound above the knee, fracturing the femur, and injuring the arteria profunda. Secondary hæmorrhage occurred from this artery on the tenth day after the reception of the wound. The patient was mentally and physically debilitated. The operation was performed at three p.m., May 10th, by Dr. L. Dyer. Stimulants and chloroform were resorted to as usual, and the form of operation was circular. The stump was dressed by interrupted sutures, adhesive strips, and roller, with the continued use of cold water. On the 15th, the patient exhibiting increased debility, stimulants and tonics were resorted to. On the 17th, a small arterial branch in an uninclosed portion of the wound poured out a little blood, which was promptly arrested by the application of a small ligature. The patient, however, continued to sink until four o'clock a.m. of the 18th, when he died. There were found, on examination of the stump, no signs of reparation, but, on the contrary, a great deal of sloughing.

**CASE XIV.—Amputation Left Thigh, Upper Third—Double Flap—Secondary.**—Geo. M. Nottingham, private, Co. I, 56th Ohio. This patient had received a bullet in the popliteal region of the left thigh. The wound originally did not seem to involve either the artery or the bone. Cold-water dressings were applied until the 20th, at half-past two p.m., when profuse hæmorrhage supervened from the popliteal artery. Judging the condition of the patient and the artery to be such as to render ligation unsafe, it was decided on consultation to amputate at the upper third. The operation by double flap was performed by Dr. L. Dyer at three p.m., stimulants and chloroform having been first administered. May 21st.—The patient passed a comfortable night, but being considerably debilitated he was put upon quinine, acid. sulph. aromat. and morphia. 22.—Cold-water dressing and other treatment continued. 23.—Suppuration commenced; citric acid and tonics. 24.—Re-dressed with roller and cold water; continued acid and tonic. 25.—Symptoms favorable; reapplied adhesive straps and roller; continue quinine and acid. 26.—No particular change. 27.—Rigors, empyema; stump looks rather favorable, however; milk punch and tonics administered freely. 28.—Rigors, sinking; parts flabby and rapidly becoming gangrenous; tonics, stimulants, and opium administered. 29.—Pulse small and frequent, with much debility; flaps purple, and at nine p.m. death closed the scene.

**CASE XV.—Amputation Upper Third, Right Leg—Double Flap—Secondary.**—Henry Taylor, sergeant, Co. B, 30th Ill. On the 2d inst., before daylight, this patient, while on duty, stepped off a high bank, fracturing the tibia and fibula at the lower third of the right leg. Was admitted to the hospital on the twelfth of May, when his condition was as follows: Fractured extremities not in apposition, but projecting through the original wound, enlarged after the accident to place them *in situ*. The bones were denuded of periosteum to the extent of an inch or more. Purulent matter mixed with grumous blood had collected in considerable quantity. The patient stated that hæmorrhage had already given much trouble. The bones were adjusted, and the limb placed in a sling under cold water drippings.

At twelve o'clock on the night of the fourteenth, hæmorrhage occurred from the anterior tibial artery, which was controlled by ligature. The case not improving, but on the contrary assuming a sloughing aspect, it was resolved on consultation to amputate at the upper third of the leg. The operation was performed by Dr. L. Dyer (double flap), on the eighteenth, at five p.m. Brandy and chloroform administered. The patient was, generally speaking, in good condition, and in excellent spirits. This case progressed ordinarily well under a sustaining course of treatment, with

citric acid and anodynes, with a few local applications of cold tar-water to the wound, until the 30th, when an irritative fever supervened with profuse suppuration, and an ulcerative process in the upper flap began to expose the corner of the divided fibula; these unfavorable symptoms, however, soon yielded in part, granulations of a healthy character began to form, and the case, when last seen, gave every promise of recovery.

**CASE XVI.—Amputation Middle Left Leg—Primary Double Flap.**—Charles Rehl, corporal, Co. E, 21st Iowa. This patient was admitted on the tenth, having been wounded on the first; he was treated meanwhile, but of the treatment no record could be obtained. When admitted, the soft parts were in a sloughing condition, with no signs of reunion; suppuration profuse and exceedingly unhealthy; the wound was also infested with almost innumerable larvae; debility very considerable. The wound was carefully cleansed, and a weak solution of cupri sulph. injected; gentle compression was made by rollers, and cold tar-water applied. Tonics, milk punch, and anodynes administered. This case progressed without improvement or anything peculiar, until the 20th, when the patient died.

We present the above cases without comment, hoping that the facts, as presented, will tend to improve our practice in "amputations."

## Reports of Societies.

### NEW YORK COUNTY MEDICAL SOCIETY.

STATED MEETING, May 4, 1868.

ALFRED UNDERHILL, M.D., PRESIDENT, IN THE CHAIR.

(Continued from vol. vi., page 307.)

#### TREATMENT FOR THE PEYERIAN LESION.

Dr. E. R. PEASLEE remarked that if it be true, as Dr. Lee has suggested, that arsenious acid modified the progress of typhoid fever, he believed it exerts this influence not in the manner specified by him, but because, like quinine, it is in some way an antidote to the fever poison itself. In regard to the general treatment of continued fevers, Dr. P. said that his ideas might be very briefly formularized. But when we come to actual cases, we must constantly modify it to suit the particular case under consideration. The following general propositions would be the basis of his practice:—

1st. Continued fever is a self-limited disease, its duration being incapable of any essential abridgment by treatment.

2d. It is due to the presence of a poison which must be neutralized or eliminated before recovery can occur.

3d. Therefore the treatment should consist:—

A. In giving the patient the best chance to eliminate the poison by removing all obstacles to this process, by receiving perfect ventilation of the apartment, cleanliness of the same, and of the person of the patient, by quiet of body and mind, a comfortable temperature, and by proper diet.

B. Administer an antidote to the poison, if any is known; and Dr. P. believes that quinine and the various preparations of cinchona bark act partly in this way.

C. Prescribe such other remedies as will aid the action of the agents just mentioned, as diaphoretics, diuretics, laxatives, soporifics, and stimulants if required, and as required.

But when we come to treat given cases, we will find the indications under the last head to vary exceedingly, though the points under the other two are never to be disregarded.

Dr. P. has had cases of typhoid fever in which he did not resort to medication at all, except as indicated under the two first heads above, i.e. hygienic management, and some preparation of cinchona. All have seen those cases of "walking typhoid," as they are sometimes called; and in most of these no other treatment is required than just

mentioned. In them, also, only mischief results from active medication of any kind.

In regard to the use of stimulants in continued fever (as that in the point now under consideration), Dr. P. remarked that he should be influenced by the condition of each particular case. In some cases no stimulant is required during the whole course of the disease, while in others stimulation is demanded from its very outset. In military practice we very often see cases in which fever ensues after an exhausting march, requiring stimulants from their first development. How, then, are we to decide whether stimulation is required in any particular case? Those who have had extensive experience easily decide this point to their own satisfaction. But nothing has as yet been said this evening which would enable a young practitioner to settle this question. Dr. P. would say, then, that stimulation is required in all cases in which subsultus is present; but we desire to anticipate this symptom, if possible. Further, then, Dr. P. should say, stimulants are indicated in cases in which debility is the leading symptom, as shown by the enfeebled and often shrill voice, by marked inability to move if roused; where there is duskiness of the surface, independent of deep pulmonary complications; and especially by a small and feeble and not very frequent pulse. If with these symptoms we give the stimulant while the tongue is still moist, and not much darkened on its dorsum, so much the better; for if we delay it will soon be black and dry, and perhaps cracked, and then stimulation even may be of no avail. These, then, would be to Dr. P. the symptoms demanding the use of stimulants. The next question is—What stimulant shall be selected, and how much shall be given? Dr. P. always has preferred the best brandy, if procurable; if not, then Bourbon whiskey. Some patients, however, have a great aversion to any alcoholic stimulant except wine, in which case champagne is usually very grateful, and to be preferred, though the genuine port is valuable also.

In regard to the amount of stimulant required, Dr. P. thought the effect on the pulse is the best criterion. If that becomes fuller without being increased much above the normal frequency, while the skin also remains moist, and the tongue is not much drier, and especially if quietude and even sleep is induced, the stimulant cannot fail of benefiting the patient: we must then remain and observe the effects of the stimulant, or appoint a competent assistant to do this; and if so, we will find that while a drachm of brandy once in one or two hours will be just enough in some cases, an ounce every hour will be too little in others.

#### DELIRIUM TREMENS FROM EXCESSIVE STIMULATION.

In regard to the danger of excessive stimulating treatment in continued fevers, Dr. P. held a very decided opinion. Stimulants are quite too powerful agents to be used otherwise than cautiously. He remembered an illustrative anecdote of the late Dr. Nathan Smith, founder of the Medical Department of Yale College. Dr. Smith was called a long distance to visit a case of typhoid fever in consultation with two attending physicians, the patient presenting certain anomalous symptoms which gave the latter gentlemen great anxiety. After an examination of the case, Dr. Smith told the physicians that he would watch with the patient till morning, when he would meet them again. On returning, they were quite astonished to witness the patient's amendment, which Dr. Smith explained by the following remark, "I found your patient drunk: he is now sober, and if you keep him so, you will have very little more to do for him, but to let him get well."

Dr. P. had not seldom seen delirium and dryness of tongue with irritation of the stomach, produced by too free a use of stimulants, and had no doubt that a persistence in such a use of them might have proved fatal.

Reference was made to Dr. Finnell's statement, where that gentleman had seen symptoms like those of delirium tremens occur during the convalescence of a patient to whom stimulants had been freely administered. Dr. P.



had no doubt such symptoms might be thus produced. If they might occur after a debauch of two or three days in a strong man in health, surely they might in one debilitated by a typhus or typhoid, though a less amount were taken in the aggregate.

The discussion has been confined principally to the use of stimulants in continued fevers, but Dr. P. remarked, they must be constantly "*backed up*" by appropriate nutrimenta, either separately or in combination with them. In the latter category, he mentioned milk punch, egg-nog, and wine whey. The best article of all he thinks, for nourishment, is beef-tea, made according to Liebig's formula; next, broths of various kinds, and if there be diarrhoea, milk porridge. Gruel, made of Indian meal, he thought almost always does decided harm by fermentation in the alimentary canal, and, in fact, he regards it as a general preparation, nourishment perhaps fit for swine, but not for the human organism.

Dr. P. would give cathartics in continued fevers either at their outset or during their course, if required to improve the condition of the alimentary canal in reference to digestion, or absorption of aliment, but for no other object. He would, however, remark on these and other classes of remedies when they came under consideration in their time.

DR. BENJAMIN DRAKE remarked that he listened to the discussion with much satisfaction, and at that late hour would claim the attention of the Society but for a few moments. He was surprised that among the stimulants recommended, but little mention of champagne wine had been made. In his perhaps limited experience, it had proved of very great value, combining, in addition to its alcoholic properties, all the advantages of carbonic acid gas, and the nutritive constituents of saccharine material. It would seem to be peculiarly appropriate. Besides, it is in most cases peculiarly acceptable to the patient, and whenever it can be procured, it is not only efficient but very desirable.

#### UNITED STATES ARMY MEDICAL AND SURGICAL SOCIETY, OF BALTIMORE.

STATED MEETING, March 5, 1888.

(Concluded from vol. vi., page 295.)

SURGEON C. C. COX, U.S.V., PRESIDENT, IN THE CHAIR.

[Reported by DR. GEO. H. DARE, Acting Asst. Surg., U.S.A., Secretary.]

DR. DARE gave the statistics of twenty-six cases of gunshot wounds of the thoracic cavity penetrating the lungs, treated at the U.S. Army General Hospital, Camden street, Baltimore.

*Character of Missiles.*—Eighteen round balls, seven minie, one grape shot.

*Location of Wounds.*—Twelve of right lung, fourteen of left; twelve were in the upper, eleven in the middle, three in the lower part of the chest; twenty-four balls passed out, two remained in. All spat blood at some period except three.

*Result.*—Eight died, eighteen were discharged.

Of the fatal cases five were wounded in the upper, two in the middle, and one in the lower portion of the lung.

Most of the twenty-six cases were in very bad condition when admitted; bleeding was out of the question. Nutritious diet, tonics, and stimulants, were freely administered. While free suppuration was going on the orifices were kept open.

Wounds of the pericardium penetrating the heart were, as a rule, immediately fatal; occasionally the patient survived for hours, days, or even weeks. Cicatrization had been observed after death from other causes, which seemed to indicate recovery after a wound of the heart.

#### WOUNDS OF THE ABDOMINAL CAVITY.

A wound of the diaphragm was indicated by the course of the ball, singultus, dyspnoea, etc. It was said by Guthrie never to heal, and that after death, long after the injury, protrusion through the opening of a portion of the stomach

or bowels had been observed. The contents of the abdominal cavity might be fatally injured by a spent cannon-ball without a solution of continuity of the soft parts. Dr. Dare had been told by an old physician, that he had known the abdominal aorta to be ruptured by a kick in the abdomen, inflicted with a man's boot. The doctor made an autopsy, there was no aneurism. The symptoms of a wound of the intestine were, the passage of blood by the rectum, and of faeces through the wound: but in many cases it was difficult or impossible to tell at once whether the intestine was wounded or not.

The wound of the intestine, if accessible, and more than a few lines in extent, should be sewed up with the Glover's suture, and the bowel returned. The bowels should be kept confined, and only fluid aliments given for a week or ten days. If inflammation supervene, leeches and warm fomentations should be used. Wounds of the liver, kidneys, and bladder, were usually fatal. In a wound of the bladder the great indication was to keep in a catheter, in order that the urine might flow through its natural channel.

E. G. WATERS, A. A. Surg. U.S.A., gave the particulars of several cases of wounds of the lungs, included in the statistics given of Camden street Hospital. In one the ball entered the left breast above the nipple and passed through; the patient spat blood four weeks, but recovered. In another the orifice remained open five months, during which time the man went about and occasionally got drunk.

Dr. W. reported a case of recovery after a wound of the abdominal cavity perforating the intestine. The ball entered two inches above the umbilicus, passed directly through and emerged about three inches from the spine. According to the patient's account, feculent matter passed through the posterior orifice, and on one occasion some blackberries which he had recently eaten. The man was much emaciated when admitted; the orifices had healed, but the posterior subsequently reopened, and matter, feculent beyond doubt, was discharged. The man recovered after awhile, and left the hospital in excellent health.

Dr. W. thought that bleeding from the arm might, in some cases, have a tendency to arrest pulmonic hæmorrhage; but that, in anticipation of long continued suppuration, it was not advisable to lower the power of the system by loss of blood, in the attempt to prevent or subdue inflammation.

SURG. BLISS, U.S. Vols., remarked that it was sometimes extremely difficult to diagnose a wound of the lung, and cited several cases in which men spat up blood after wounds which did not penetrate the thoracic cavity. For the shock and prostration after a wound of the chest, Dr. Bliss advised brandy and opium in combination. He corroborated Dr. Waters's objections to bloodletting, and stated that he had never seen it practised on the field. After punctured fractures of the cranium Dr. B. recommended the early use of the trephine, whether there were symptoms of brain trouble or not.

A. A. WOODHULL, Assist. Surg. U.S. Army, related the case of a friend who was shot through the cavity of the knee-joint. Dr. Rodgers, in order, as he stated, to prevent inflammation of the joint, ligated the femoral artery. The result seemed to justify this novel mode of treatment; the officer recovered with some stiffness of the joint and contraction of the flexor muscles.

JAS. H. BOONE, A. A. Surg. U.S. Army, stated that he had treated seven of the twenty-six cases of gunshot wounds of the lung, statistics of which had been given. In one case a minie ball passed through the middle lobe of the right lung, fracturing the scapula. The patient spat blood at first. Air passed freely in and out of both orifices. When admitted he was much emaciated; there was free purulent discharge from the wound. As an experiment, Dr. Boone stopped up, as closely as possible, both orifices. Air ceased to be respired. The man spat up for a few days about as much pus as had previously been discharged from the orifices. He commenced to improve, and in

course of time left the hospital apparently well. All of the cases were treated with tonics and stimulants. Five lived, and left the hospital. Five died of traumatic pneumonia.

## American Medical Times.

SATURDAY, JULY 4, 1863.

### CALOMEL AND TARTAR EMETIC AS REMEDIAL AGENTS.

SURGEON-GENERAL'S OFFICE,  
WASHINGTON CITY, June 12, 1863.

DEAR SIR:—Desiring to obtain the opinions of the more eminent members of the Medical Profession relative to the indiscriminate use of Calomel and Tartarized Antimony, I have the honor to request that you will answer the following questions:

1st. To what extent do you prescribe Calomel and Tartar Emetic in your practice?

2d. Do you regard these agents as indispensable in the treatment of disease?

3d. In view of the facts that a large number of the Medical Officers of the Army are young and inexperienced, and that soldiers cannot in the field be placed beyond the influence of atmospheric vicissitudes and exposure whilst undergoing medical treatment, would you recommend that the medicines in question be issued to Army Medical Officers, except, as at present, upon special requisition?

4th. Do you or do you not think that more harm than good has resulted from the use of Calomel and Tartar Emetic as medicines?

It should be stated that the following mercurials are at present on the Supply Table, viz:

Hydrargyri chloridum corrosivum; Hydrargyri iodidum flavum; Hydrargyri oxidum rubrum; Hydrargyri pilulæ; Hydrargyri unguentum; Hydrargyri nitratis unguentum; Pilulæ cathartice compositæ; and that it is provided by paragraph 13, of Circular No. 7, dated Surgeon-General's Office, May 7, 1863, which contains the Supply Table, and which refers to the manner of obtaining medical supplies, that "it is not the design of the Department to confine Medical Officers absolutely to that table, either in variety or quantity, but only to establish a standard for their guidance in making requisitions for supplies, leaving individual preferences to be indulged at the discretion of the Medical Director or the Surgeon-General. Neither is it supposed that the quantities of the table will always meet the necessities of unusual emergencies, as during epidemics, or in unhealthy seasons and localities; and Medical Officers who allow their supplies to be exhausted through any such contingencies, without timely notice of their approaching necessities, will be held to a strict accountability."

I am, sir, very respectfully,

Your obedient servant,

WILLIAM A. HAMMOND,  
Surgeon-General, U.S.A.

In a recent number we gave our reasons for approving the order of the SURGEON-GENERAL striking calomel and tartar emetic from the Medical Supply Table of the Army. Our conclusions were based upon the information which had induced the order, communicated by the medical inspectors, upon an extended personal observation in military hospitals, and on inquiry among some of the most eminent army surgeons. The order appeared not only expedient but judicious, and, under the circumstances, necessary. It could not justly be construed as an attempt to control the practice of the discreet surgeon, but simply prevented an existing abuse. The diseases among soldiers for which mercurials are specifics may be treated as efficiently as formerly, for the army surgeon still has among his medical stores several forms of mercury which will accomplish his purpose equally well. Calomel has the disadvantage of being used so frequently in simple diseases as a common remedy, that constitutional effects occur, often unexpectedly to the physician, especially in debilitated patients. By removing this agent, therefore, and still leaving other mercurial preparations as well adapted to specific purposes, but less liable to be used, except when the practitioner is desirous of producing specific results, less harm must obviously attend the use of mercurials. Such, we do not doubt, will be the effect of this order. No evil can result to the sick soldier from the absence of calomel from the

list of remedies, however much he may need mercurialization, when such preparations as blue pill, bichloride and iodide of mercury, etc., remain. But in prescribing these latter remedies the practitioner generally has a very definite idea of the object he wishes to attain, which is not always the case in the use of calomel. Even if the SURGEON-GENERAL has committed an error in issuing this order, it appears that no harm can come of it, as calomel and tartar emetic may still be obtained on special requisition. This fact should be thoroughly understood by all medical directors, as well as the medical staff.

In the circular which heads this article the SURGEON-GENERAL seeks information from eminent members of the medical profession, relative to the indiscriminate use of calomel and tartarized antimony. The queries proposed open the widest possible field for the discussion of the therapeutical uses of two of the most popular remedies of the materia medica. If, as it would appear, this circular is designed to elicit from eminent medical men opinions which will or will not sustain the recent order, it should have been issued before that order was promulgated. This might have obviated much of the ill-feeling which the order has excited. If it is designed simply to raise a scientific question in the profession as to the propriety of using these remedies in the treatment of diseases, the result may be anticipated. The verdict of the vast majority of the practitioners in civil life will be emphatically expressed in favor of these remedies. But we are not disposed to regard this as a question which eminent civil physicians can discuss so as to aid in its proper solution. It is purely a military subject. The real point at issue is embraced in the third question, and no one can answer that intelligently who is not practically familiar with the diseases of soldiers, and the modifying circumstances which surround them. Upon the answers of the surgeons of the army to these inquiries we shall rely, and not upon those elicited from civil practitioners, whatever may be their eminence. We hope the circular will be responded to by all the leading army surgeons, and all the medical inspectors.

### THE WEEK.

DR. T. GAILLARD THOMAS has lately been appointed Adjunct Professor of Obstetrics to the College of Physicians and Surgeons of this city. The choice of the Trustees is an exceedingly good one. Dr. Thomas is a gentleman of acknowledged ability in his department, and has long enjoyed the reputation of being a very successful teacher. We learn that PROF. BEDFORD has resigned the Chair of Midwifery in the University Medical College, which he has filled with so much ability since the first organization of the school. His successor has not been appointed. PROF. WOLCOTT GIBBS has been chosen to fill the RUMFORD PROFESSORSHIP, Harvard College, Mass.

WE regret the being obliged to issue the index of the last volume in the first number of the present. The occurrence is owing to the loss of the manuscript when, too late to be replaced.

INDUCTION OF PREMATURE LABOR.—Professor Giordano tells us that the best method of inducing premature labor is cauterisation of the neck of the womb with lunar caustic. This, he says, excels all other methods.

## Original Lectures.

### LECTURES ON NEW REMEDIES AND THEIR THERAPEU- TICAL APPLICATIONS.

DELIVERED AT THE  
NEW YORK MEDICAL COLLEGE AND CHARITY HOSPITAL.

By SAMUEL R. PERCY, M.D.,

PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS.

#### LECTURE X.

ON THE USE OF VERATRUM VIRIDE AS A MEANS OF ARRIVING AT  
A CORRECT DIAGNOSIS IN DISEASES OF THE HEART AND  
LUNGS.

GENTLEMEN:—I purpose to-day to relate to you the symptoms I found present in a case of disease of the heart. I will then give you the treatment I adopted for their amelioration, and, as far as time will permit, explain to you the action of the remedy used, and how by this action a clear and correct diagnosis could be determined, when previous to this administration of the remedy it was almost impossible to arrive at an accurate diagnosis.

James Cunningham, *æt.* 40, a day-laborer. About four years ago he had acute rheumatism: since then he has complained of impeded and difficult respiration, accompanied with more or less palpitation. These symptoms have increased in severity, until at present he is hardly able to move. The first inspection of this man's face gives one a thrill of pain, for intense suffering is so plainly imprinted upon it: the eyes have a wild and anxious look, the mouth is partly opened, the nostrils are dilated; and these and other marked alterations from the aspect of the features while at rest, are all produced by one necessity, that of better respiration. In a word, we have dyspnoea. If we stop to count the breathing, we find he has from forty-seven to fifty respirations in a minute, and we see that this dyspnoea differs greatly in character from the dyspnoea of asthma or pneumonia; it is rather of a gasping, strangling character. The throat and chest are bare, the arms are rested and poised so as to give the muscles of the chest every opportunity to perform their functions. As you watch him you see that he makes no effort at motion, or rather that he tries to avoid making the slightest effort, for fear that it will increase his dyspnoea; that he even avoids speaking, and looks to others to answer questions for him. Sick as this man looks and feels, he is not in bed, but is seated in a large arm-chair, with his feet upon a pillow, and we learn upon inquiry that he has not lain down, or hardly been out of that chair for a week, and that during that time he has scarcely slept for a minute; that although intensely sleepy, the minute his eyes close in sleep he awakes with a sudden start, and a gasp as if suffocation were imminent. As we sit quietly watching him for a few moments, we see a drowsiness gradually creeping over him, we see his eyelids close, and for a moment or two we can fancy his breathing easier, and he looks as though he might sleep, but in an instant he starts and gasps for breath, and again that look of the horror of suffocation overspreads his face.

We see, then, that in addition to dyspnoea, or difficulty of breathing, he has *orthopnoea*, an inability to assume a recumbent posture during sleep without producing a struggle for breath.

Let us now attend to the state of the pulse. The moment the finger is applied to his radial artery we find the pulse is a most peculiar one. Instead of the steady beat we find in health, we here have what is usually called a jerking or leaping pulse. It feels as though the impetus given had not been completed, and as two or three fingers are spread over any of the larger arteries, there is a serpentine, wriggling sensation conveyed to them, and this sensation,

which may be felt, may be plainly seen, if any of the arteries, either large or small, be closely watched, and it will then be noticed that the arteries have assumed a very tortuous appearance. The bowels are costive, the urine is secreted in small quantities, and it is of a dark red color, containing large quantities of purpura of ammonia. There is a dry, teasing, irritative cough. The feet and legs are much swollen, and we learn that the swelling has much increased within the last few days, and that it has progressed upwards. What do all these symptoms tell us? To a junior student they explain little of the cause of the disease, but to one of experience every symptom is full of information! The peculiar, serpentine, wriggling pulse, that I have described, is always indicative of one peculiar disease of the heart, and wherever you find this pulse you may safely pronounce that there is regurgitation—aortic regurgitation. How shall we prove this to be the fact in this individual case? You will say that auscultation and percussion will plainly settle this point! As with difficulty we get the man into such a position as to listen to the heart, we are struck with the tumultuous amalgamation of sounds and murmurs, and with the closest intensity and nicest perception we are utterly unable to state positively what we do hear. With a rapid respiration of fifty in the minute, and a pulsation too fast to count, how is it possible to arrive at anything like a correct diagnosis? We plainly hear an unnatural murmur, but it is utterly impossible to define its character, or tell with which sound of the heart it occurs.

It is precisely in this state of disease that the medicine that I have mentioned, *veratrum viride*, is of such inestimable value to us, not only in ameliorating the symptoms, but in enabling us to arrive at a correct diagnosis. As this man is in a critical condition, and as the medicine we propose giving him is a powerful sedative, it will be necessary to give it with caution, and watch the state of the pulse from hour to hour. I will commence with a dose of three minims of the concentrated tincture, the formula for which I will give you hereafter. Upon returning in an hour, although the pulse cannot be counted, it is evidently more regular than before, the respirations are now forty-two in the minute, and the patient thinks he feels a little easier. We now give him two minims every hour for three successive hours, when we see him again. The pulse can now be counted 132 beats in the minute, but it requires great attention, or you readily lose the count; the respiration is certainly much easier, and is thirty-seven in the minute. The man says he is already easier than he has been for a week, but he dares not trust himself to sleep for fear of the orthopnoeal paroxysm. Leaving him now in the care of an intelligent friend, we shall not see him again till morning. As we see him at ten A.M., eighteen hours since the administration of the first dose of *veratrum viride*, we find a very marked change. We learn that he took two minims every hour until midnight; he then felt a little nausea; and he has taken two minims every two hours since midnight. The pulse has gradually decreased in frequency, being now about ninety in the minute, and the respirations thirty-one. Since midnight he has slept at intervals of fifteen to twenty minutes at a time, and wakes up with a struggle. He has also stood on his feet several times to have his cushion shaken up; the urine has been passed in much larger quantity. I now direct that four minims of the tincture, combined with one-eighth of a grain of sulphate of morphia, be given him at ten, eleven, and twelve o'clock, and I will see him again before one o'clock. You will find, as you use *veratrum viride* more frequently, that you will occasionally need to give it in full doses without inducing nausea, and with this object in view you will combine it with morphia. The morphia again has another adjuvant action: it lessens the number of respirations when given in combination with *veratrum* more readily than either remedy will do alone. And now, at one o'clock, in what state do we find our patient? He still sits erect in the chair, but his head has fallen back, and he is sound asleep;

the respirations are only twenty-two in the minute, and the irregular pulse, taking an average of three minutes, beats only fifty-five in the minute. Let us now gently awaken him, and examine the state of his heart and lungs by auscultation. We now find a very marked difference from the tumultuous sounds heard at our last examination, for as then all was indistinct and confused, now every sound and murmur can be distinctly appreciated with the greatest ease. There is no difficulty for the youngest student to now readily study and comprehend every normal and abnormal sound. We find upon percussion that there is marked hypertrophy of the heart, and that this hypertrophy is general, and has caused a downward subsidence of the organ, and, as is common with dyspnoea from other causes, there is a descent and flattening of the diaphragm. We find upon further examination that the severe dyspnoea has caused lung inflation or distension, and that the border of the lung overlaps the heart, which is another cause of downward subsidence. We now plainly hear a distinct murmur and regurgitation following the incomplete closure of the aortic valves, and as the movements of the heart, and the respirations also, are now slow, this imperfect closure of the valves, with the sudden and jerky flow of blood into a partially collapsed aorta, and subsequent regurgitation of blood into the ventricle, with the damming back of the whole current of the circulation, are plainly audible. A murmur is distinctly heard in the carotids, and the serpentine, wriggling movement, of which I have before spoken, can be most easily seen and felt in the arteries that approach the surface. I must not be too minute in my description of pathological conditions, but confine myself to my proper sphere—the action of medicines. But I must give a brief description of the result of the treatment in this case. You will remember that previous to the administration of the veratrum we could hear but little by listening to the lungs. Now we plainly distinguish that the dyspnoea which exists is not dependent upon want of air supplied to the lungs, but on want of proper circulation within the pulmonary vessels. We spoke of an irritating dry cough. The cough still continues, but not so incessantly as when we first noticed it; and it is not now dry, but there is quite free expectoration of viscid mucus; there is no pus with it, and the complete absence of pus alone is a strong symptom to assure us that no inflammatory action of the lungs was the cause of the dyspnoea, but mere passive congestion caused by sluggishness of the circulating fluid. The kidneys now have secreted very large quantities of fluid, and it is of a brighter yellow color. This is not because we have given diuretics, but owing to the relief we have given to the circulation, for previously the slow and imperfect passage of blood through the kidneys prevented the draining off of the proper quantity of water, partly because of the non-renewal of fresh blood to the kidneys in sufficient quantity to part with its water, and partly because the heart and lungs had not sufficiently metamorphosed or vitalized the blood to present it to the kidneys in quality to be eliminated.

We find our patient much relieved in all his symptoms. The dyspnoea is much relieved; the orthopnoea for the present has left him; the cough is less frequent, and if you watch him, you see that it now scarcely troubles him if he does cough; the urine is free in quantity; he can move, and complains of feeling hungry; and all this relief has been brought about in twenty-one hours by the administration of thirty-seven minims of my concentrated tincture of veratrum viride! Now, how has this small quantity of medicine produced this amelioration? We have frequently before explained to you that veratrum viride is the best arterial sedative that we possess; that when judiciously administered it regulates the action of the heart, and brings it to its normal standard. It lessens the irritability of the whole vascular system, and causes the blood to flow more readily and quietly. It does this not only by its action upon the heart, but, as we have demonstrated, by its action on the blood-vessels and upon the blood itself. Its seda-

tive action upon the blood-vessels I have demonstrated in many instances, and I have witnessed a marked change in the character of the blood during the action of this remedy. These peculiar changes in the action of the heart and blood-vessels, and the alteration in the character of the blood, by veratrum viride, I must leave till another lecture. The action we notice in the case I have related is, a gradual subsidence in the rapidity of the circulation, and, consequently, a great relief from the oppressive dyspnoea. As the circulation becomes more quiet, we plainly notice a more thorough contraction of the aortic valves, and, although we have not in any way cured the organic lesion, we have to a very marked extent relieved the functional disturbance. And not only have we relieved our patient from intense suffering, but (whereas when we first saw him it was utterly impossible by auscultation or percussion to form any diagnosis as to the extent or character of his disease) we can now, while he is under the influence of our remedy, form a clear, accurate, and correct diagnosis, without difficulty and without danger.

I have, since 1856, been in the habit of preparing every patient, whose heart or lungs I have wished to examine, with small and proper doses of veratrum viride, and by this means I have been enabled to arrive at a clear and certain diagnosis of cases of incipient phthisis, pleuritis, pneumonia, diseases of the heart, etc., that I could not clearly diagnose without the previous preparation of the patient with this remedy, owing to functional disturbances or other exciting causes. There are many persons who are examined for these diseases where it is almost impossible to arrive at any correct diagnosis in the early stages of disease, at which time *only* treatment can be expected to be of much avail, owing to even slight functional disturbances, which completely mask or render obscure the signs that without the disturbing causes would be readily recognised. Now veratrum viride quiets these functional disturbances, lessens the rapidity of the circulation, tranquilizes the respiration, and thus so moderates these functions that the mind can readily define and arrange the sounds that are communicated to the ear. I give you this new means of diagnosis as the results of my own investigations. I am not aware that it has ever been practised, except by those to whom I have communicated it. I need not impress upon you its vast importance, for by means of this practice you may always know what you are treating, and you will find that that is no slight gain in your ability to inform your patient of what he may expect from your treatment. This new means of diagnosis will be of inestimable value to the Life Insurance Companies in all cases of doubtful diseases of the chest.

But let me in a few words finish what I have to say on the treatment of the patient before us, and I must leave further discussion of the interesting subject matter before us to another lecture.

As soon as our patient had entirely overcome all feelings of nausea, half a grain of elaterium was administered to him. It produced a large watery evacuation, and greatly relieved the cedematous condition of the legs. By small doses of veratrum viride, cautiously administered whenever dyspnoea became troublesome, by the administration of half a grain of elaterium every third day, and by the use of the vegetable tonics, and a nutritious, but carefully watched diet, our patient is out and about his ordinary occupation, but he has to be very careful, or the orthopnoea struggles prevent him from sleeping at night. He will probably die suddenly. I have merely related this case as a means of interesting you in the new method of diagnosis I have proposed to you. It was more easy for me to bring it before you in this way.

Of the concentrated tincture of which I have spoken, I have found that which is usually sold in the drug stores under the name of Norwood's Tincture, of very uncertain strength, scarcely ever being alike in two different stores, and I think a great deal of the want of uniformity complained of with this remedy, is owing to the imperfect manner in which the tincture I have spoken of is made. From

the many experiments I have performed I have found that the medicinal principle of the root is contained in the resin. To obviate all difficulties of the uncertainty of strength, I have prepared the tincture I have been in the habit of using, after the following formula, and have always found it uniform in strength.

#### CONCENTRATED TINCTURE OF VERATRUM VIRIDE.

Any quantity of well selected root is coarsely powdered, and treated with alcohol 86°, by percolation, the alcohol is distilled off, and the residuum evaporated to an extract over a water-bath until it is nearly dry, or until it ceases to become lighter upon being weighed at intervals of an hour or two. To make the tincture, one part of this extract is dissolved in ten parts of alcohol at 86°, and filtered.

Any good pharmacist can prepare this tincture, but if any of you wish to use it immediately, either the tincture or the extract can be obtained from Mr. Faber, Sixth Avenue, corner of Thirty-eighth street.

This tincture is nearly double the strength of that called Norwood's, and the medium dose is about two minims. I also use the pure resinoid, and a tincture prepared from it, of which I will speak at another time.

## Original Communications.

### MECHANISM AND TREATMENT OF LABORS

WITH BROW AND FOREHEAD PRESENTATIONS.

By JOSEPH MARTIN, M.D.,

OF NEW YORK.

THE manner in which a brow presentation is produced was not understood before the time of Baudelocque. He first advanced the opinion that a presentation of the face is always preceded by that of the brow. And since then systematic writers on midwifery have considered the premature separation of the chin from the breast, at the beginning of labor, as the origin of these malpositions of the foetal head.

Murphy tells us that the difficulty in a brow presentation is slight, and can be easily removed; but that, "when the forehead descends into the cavity of the pelvis, and becomes the presenting part, the position is so unfavorable that the head will be arrested, and by a continuance of pain it will be completely wedged." He does not, however, explain satisfactorily how the head becomes arrested and wedged. Tyler Smith states that, "in semi-extension of the chin the brow presentation exists;" and that "it is among the most difficult of cranial presentations." He also states that, "when the chin is separated as far as possible from the chest, there will be a face presentation;" but admits that "the manner in which such positions of the head are brought about is somewhat obscure." Professor Simpson says, "When the head is not sufficiently flexed, the momentum of the action of the uterus is received upon the middle or fore part of the forehead, and not upon the occiput. The mechanism of the labor thus comes to be perverted, and delay and danger may follow."

I will confine myself, at present, to these authors. But it can be easily shown, by reference to other writers on midwifery, that no definite opinion is entertained by the profession as to the exact nature of these malpositions; nor as to the cause of the difficulty when the foetal head becomes wedged, or impacted, as it is called. Consequently, the modes of practice generally recommended, in such labors, are vague and unsatisfactory.

Baudelocque recommends—"pushing up the forehead, during pains, or drawing down the occiput by the hand or one blade of the forceps, or turning when the whole head can be pushed back, and, when that cannot be done, the use of the forceps or crotchet."

Dr. Dewees adopted the same methods of treatment; but preferred pressure upon the head in the absence of pain. F. H. Ramsbotham's mode of treating such labors is—"A steady pressure upon the brow until the power of the uterine forces brings down the back of the head; or rotation of the head by means of several fingers." Professor Simpson says, "There are but three alternatives in such a case, that is, rectification by raising the forehead; or the application of the vectis over the occiput, to bring it down; or rotation by the forceps; or forcible extraction by the same instrument."

These various methods of practice, all of which are recommended by writers generally, except the depression of the occiput, adopted by Simpson and a few other modern accoucheurs, show that there is no uniform treatment of such labors, based upon a knowledge of their true mechanism, recognised by the profession. Hence the following question, put by the elder Ramsbotham, in relation to a labor of this description, is of vital significance. He asks, "Suppose, on watching the case, we find no advantage gained, no alteration in the position of the head, no advance from hour to hour, what then is to be done?"

As to pressure with the fingers upon the forehead, or other parts of the foetal head, for the purpose of changing the presentation, it is evident that the fingers cannot carry the chin far enough back towards the breast, except in a very few cases, to enable the uterine power to force the short arm of the cranial lever below the brim of the pelvis. Next, in relation to version when the head is wedged in the pelvis, even if it can be pushed back, the well known danger of the operation to mother and child, under the most favorable circumstances, ought to preclude its adoption. *The use of the forceps in such a labor is totally inadmissible.* For at this point of the process, as will be presently shown, the long diameter of the head is applied to the superior strait of the pelvis, and traction with instruments will only increase the difficulty. As to craniotomy, it is only a last resort, after unavailing efforts to deliver, together with useless delay, have caused the death of the child.

Now, the only rational method by which we can decide upon the proper treatment in this and other difficulties in cranial labors, is to ascertain, by careful observation at the bedside, the exact nature of the various positions of the foetal head, and the manner in which it is acted upon by the uterine power, from the beginning to the termination of the process. For the mechanism of a labor truly indicates the practice necessary for a favorable result. What, then, are the facts observed in this description of labor? There is always an abnormal separation of the chin from the breast of the child; the occiput is, therefore, more or less flexed upon the nape of the neck instead of being fully extended as in natural labor, and the power of the uterus, acting in the direction of its longitudinal axis, is transmitted through the cervical vertebrae and cranium to the brow, and it becomes the presenting part at the superior strait. The labor pains now force the brow into the pelvis, because the chin is not sufficiently extended to constitute a face presentation; and every additional pain drives the head, still in that position, down into the pelvic cavity, until it is obstructed.

Up to this point all authorities agree as to the mechanism of labors with forehead presentations. But in relation to the cause of the arrest, and the subsequent impaction of wedging, I have searched in vain for *any satisfactory explanation*. We must, therefore, observe the operations of nature in order to solve the difficulty. As the semi-extended chin, which is the terminus of the long arm of the cranial lever, cannot pass into the pelvis, it is the part of the head first arrested by the brim, and lodged above it, where it is pressed downwards, and fixed by the circular muscular fibres of the uterus at that point. It then becomes the fulcrum of the lever, upon which the head turns as the uterine power impels the short or occipital arm towards the pelvic cavity, into which the forehead, the bregma, and

the posterior fontanelle, in succession, are forced, until the process is checked by the occiput, that now also rests upon the brim; beyond which it cannot be driven by any number of labor-pains, nor by any amount of artificial force, because the long diameter of the head, the mento-occipital, is applied to the superior pelvic opening. Such are the results of my observations.

The forehead is now the presenting part. The anterior fontanelle is felt low down, and the posterior opening can be reached by following the sagittal suture upwards; on the other side of the pelvis, the brow, the mouth, and every other part of the face, except the chin, can be traced. Still there is ample space for two fingers, when carried nearly to the brim, to sweep around the head. And it may be remarked, that this peculiarity constitutes the difference between a wedged and an impacted head, and *is the diagnostic sign of labors with forehead presentations*. For in face presentations, as in vertex cases, the head, almost uniformly, passes through the superior strait before it is arrested, when, in consequence of its large size, uterine inertia, or resistance of the soft parts, it becomes stationary, filling the cavity of the pelvis, and leaving no space for a single finger.

This occasion may also be taken to state that the word presentation is not confined in this paper to its technical meaning, that is, to designate the part of the foetal head that presents itself at the superior strait, but indicates the point first touched by the examining finger, at any period of the process. For, as is shown above, in forehead presentations, almost the entire face can be felt by means of two fingers. This is an important fact, because there is good reason to believe that it has led to much confusion in descriptions given of such labors, and not a little discrepancy of opinion as to their proper treatment. And it can be shown, by reference to recorded cases, that on more than one occasion the use of the forceps, and even craniotomy, has been resorted to, when a knowledge of the true mechanism of such labors would have pointed unerringly to a more simple and safer operation.

If the above be a correct description of the mechanism of labors with forehead presentations, the proper treatment is obvious; that is, the conversion of the malposition into either a vertex or a face presentation, which, according to my experience, can be readily accomplished. The former, by introducing the hand, or by means of the vectis, or one blade of the forceps, and bringing down the occiput, when there will be a vertex presentation; the latter, when circumstances are favorable, by dislodging the chin from above the brim of the pelvis, in the absence of pain, by means of the fingers, when the face will present, and the labor will progress with the usual results. And one or the other of these simple operations can be resorted to with promptness, and with safety to mother and child, according to the circumstances attending the labor, either when the brow simply presents, or after the head has become wedged, whatever may have been the delay, and whether the child be living or not. Every other mode of treatment is either unavailing, or dangerous to mothers, and, in most cases, fatal to infants.

I have shown in my paper on "Face Presentations," that even after the fully extended chin has entered the pelvis, the occiput can be brought down, and the labor converted into a vertex presentation; and there can, therefore, be no difficulty in performing the operation when the chin is above the brim. And the following case, while it illustrates the manner in which brow and forehead presentations are produced, will show, that after the head becomes wedged in the pelvis, the face can easily be made to present, when the labor will terminate favorably.

On the 26th of July, 1862, I was requested by Dr. William J. Newman, of this city, to see a patient of his, Mrs. H., aged thirty-two years, in labor with her sixth child. All her previous labors had been unusually rapid, terminating generally in less than an hour. When I arrived she had experienced very severe labor pains for upwards of

three hours, and the head of the child had been arrested for more than one hour. The Doctor considered the labor facial. On examination per vaginam, I found that the forehead presented, and was far down in the pelvic cavity. The chin was in relation with the left acetabulum, and the occiput was at the right sacro-iliac synchondrosis; the left mento-iliac position. The pelvis was ample, the os uteri fully dilated, and all the soft parts completely relaxed. The anterior fontanelle was low down, and the posterior could be reached by following the sagittal suture upwards; the mouth, and every other part of the face, except the end of the chin, could be traced by the middle finger, and there was sufficient space to move the two fingers around that part of the head which was below the brim.

Here was a plain case of forehead presentation, with a wedged head, and the occiput and chin resting above the brim at the termini of the right oblique diameter of the pelvis. The recognition of this position of the foetal head enabled me to decide at once, that there was a choice of one of two operations, by either of which the labor could be readily and favorably terminated. I could introduce the hand, pass it up at the right sacro-iliac synchondrosis, curve the fingers over the occiput, bring it down, and turn it forward to the foramen ovale, when the child would be born with the vertex presenting; or, I could dislodge the chin from above the brim, when the labor would be changed to a face presentation. As the pelvis was large, the head of the child comparatively small, the os open, and the other soft parts relaxed, the labor pains being severe and in quick succession, I concluded to adopt the latter, as the more simple and ready mode of treatment. Two fingers of the right hand were then passed over the right side of the head, during a pain, to the angle of the lower maxillary; and at the close of the pain, when the head slightly receded, the point of the middle finger was slipped, with some pressure downwards, along the edge of the bone towards the left acetabulum, when, upon the recurrence of a pain, the chin glided below the brim; and in less than twenty minutes from the time I entered the room the child was born with the face presenting.

The only peculiarity about the face was a distortion of the right corner of the mouth, which was pressed downwards and backwards; and, in connexion with it, there was a well marked depression in the edge of the bone at the right angle of the chin. This was the part of the foetal head which was first arrested by the brim, and pressed down upon it by the labor-pains, after the lodgment of the occiput on the other side of the pelvis. And it shows that, in consequence of the usual obliquity of the head when it is about to enter the superior strait, the side of the chin, and not its anterior part, rested above the brim. Hence the great amount of force it can resist from labor-pains, or traction with the forceps. The mother of the child informs me, that "the deformity of the mouth continued for several days, and the black color lasted much longer."

The only case that I have seen published in which the foetal head was injured by wedging, consequent upon a forehead presentation, as there is reason to believe, is related by Cazeaux, in a note, page 442, Paris edit., 1856. He calls it a face presentation (mento-iliacque gauche transversalis), in which the membranes had been ruptured nine hours before he was summoned, during which time the forceps had been applied. Three-quarters of an hour after his arrival the labor terminated spontaneously. The child was soon reanimated. "But," he adds, "on examination of its head I detected, in the vicinity of the posterior fontanelle, small splinters of bone which crepitated under the finger; and on its dorsal side, there was an evident trace of a depression, distinctly marked."

Cazeaux believes that this injury was done after the chin was engaged under the pubes, in consequence of "forcible pressure upon the posterior part of the thorax, flexing it upon itself, which transmitted the uterine power directly upon the occiput." But it is evident that such an injury could not be inflicted by labor-pains, acting in that man-



ner. And delivery, without additional aid, could scarcely have taken place after the failure of the forceps, applied when the chin was low down in the pelvis. If, however, the head was wedged in the manner described above, which I believe was the case, traction with the forceps would have caused just such a depression and fracture of the bone, without advancing the labor; and then spontaneous dislodgment and additional extension of the chin would be likely to result in delivery.

## GUNSHOT WOUND OF THE GREAT TROCHANTER.

EXSECTION OF HEAD OF FEMUR—GRATIFYING RESULT FROM THE USE OF DRAINAGE TUBES.

By DAVID P. SMITH, SURGEON, U.S.V.,

IN CHARGE OF GENERAL HOSPITAL, FAIRFAX SEMINARY, VA.,

JOSEPH BROWN, Co. I, 3d Michigan, was shot through the left great trochanter on the 29th August, 1862, at the second battle of Bull Run. He lay three days on the field, was then taken to Centreville, and finally brought to Fairfax Seminary General Hospital, Va., on the 11th of September.

It being deemed best to attempt to save the limb, he was treated in obedience to that view, the limb being placed in a suitable splint, and as much nourishment being got down as possible. I twice removed fragments of dead bone from both the wound of entrance and exit, and his improvement was so great that about the end of February he began to think of going home. Early in March, however, the limb began to swell immoderately, he lost his appetite, his pulse became small and frequent, and the discharge from the wound, although scanty, became extremely fetid. Under these circumstances I deemed it best to attempt relief by operation. Accordingly, on the 21st of March, having first made a large exploratory incision, and discovered much disease, I extended it at both ends, so that it reached from about three inches above the trochanter, down on the outside, and along the axis of the limb, for about eight inches. So much new bone had been deposited about the seat of the fracture that, on beginning to dissect up the soft tissues from the tip of the great trochanter downwards, much embarrassment was experienced from the greatly increased diameter of the bone. By the handle of the knife, and the fingers, the new bone and periosteum producing it was peeled off and pried away from the necrosed portions. Just below the trochanter the bone was but loosely agglomerated, and came away in large fragments in the grasp of forceps. With large and powerful cutting forceps the femur was squarely divided at from five to six inches below the tip of the trochanter major. A screw driven into the softened pudding-stone (bone) failed to hold, and the part to be excised was manageable only with necrosis forceps. The neck was found so much diseased that I proceeded to remove the head from the acetabulum, which was happily accomplished with but very trifling hemorrhage.

The portion excised will be sent to the Surg.-General's Office, furnishing, as it does, an impressive example of how much disease may exist after a gunshot wound, with but trifling manifestations of mischief, for, in this instance, nearly seven months.

He was rallied with difficulty from the shock of the operation.

After the lapse of about forty-eight hours an erysipelatous blush appeared over the whole thigh, and typhoid symptoms began to manifest themselves. I then pushed a female catheter into the wound, directing it towards the acetabulum. A jet of very offensive decomposing bloody serum issued through the catheter to the amount of four ounces. I retained the catheter in the wound, and introduced another one two or three inches below, so as to drain off all effusion; much serum and grumous blood poured

out, oozing from the cut surfaces, and trickling through the catheters. On the fifth day after the operation he had a severe rigor, which gave rise to grave apprehensions, but the discharge through the catheters soon told that it was caused by hemorrhage to the extent of four to six ounces. He soon rallied from this. I often washed out the cavity by injections of warm water and solutions of chloride of soda. The catheters often became clogged up, which as often necessitated their removal, cleansing, and re-introduction. For a day or two at first the limb lay on a pillow: I then applied Prof. N. R. Smith's anterior splint; but that, admirable in all other respects, preventing access to the front of the limb for the purpose of rubbing, I then contrived a species of hammock for the limb, hung from a beam overhead. The miniature hammock for the leg hung horizontally, but in order to effectually prevent any burrowing of pus, I hung it so high that the thigh was almost perpendicular. To support the thigh I passed a bit of soft towelling around the under surface of it, broad enough to extend from the perineum to the popliteal space, and suspended by cords leading back to an upright behind the bed at an angle of thirty-three degrees with the horizon. This latter support so equally pressed upon the under surface and two sides of the thigh, as to relieve the man immediately of all uneasiness, and cause a continual oozing from the wound and dropping from the catheters of pus, serum, and synovia. About seven days after the operation suppuration was fully established.

An unlimited amount of nourishment was afforded this man from the moment the nausea and vomiting induced by the chloroform had passed away. Ten or twelve eggs each day, with an unlimited amount of strong beef-tea, and half an ounce of brandy every two hours, were given him. In connexion with this case, I wish to remark, that my experience in all branches of the service has driven me to the conclusion, that it is not the fault of Government or of the Surgeon-General, if the sick and wounded in the army do not receive every comfort, every care, every attention. I must say that I have found that proper supplies, proper food, suitable clothing, and good nursing, are always obtainable by the surgeon for his sick and wounded. Careless and incompetent men will always probably exist, and contrive to creep into subordinate positions in every department, but the atmosphere for them in the medical corps of the army is so uncongenial that they soon drop or are dropped out. I make these remarks, because I have observed with pain the remarks of some surgeons who, from a want of experience, meeting with minor difficulties, and perhaps missing in the Supply Table some medicines used only by a few practitioners, think themselves justified in indulging in puerile complaints. Deeming it of the utmost importance that there should be, in the case of this man, no hindrance to digestion and assimilation that could be avoided, on the second day after the operation I discontinued the use of opium, which he had used nearly all of the time since his wound was received. This I did, of course, by rapidly diminishing the dose of the opiate, not dropping it at once.

The above is an extract from my monthly report for the month of March. During April, Brown continued to improve. I gave him porter with large quantities of cod-liver oil part of the time, half a pint of the latter daily. I was obliged to keep in drainage tubes until the first of June. Whenever I removed them, as I did several times to try to do without them, pus would accumulate and burrow. When I removed the last one on the 1st of June, I passed a mesh of suture wire through the fistulous opening still remaining. This was retained until the 20th inst. The wounds, both of the operation and the original wound, are now entirely healed. The man is about on crutches. Of how much use this limb will be to him it is now too early to decide: I make no comments on the case, because I desire only to report its occurrence, and recommend the use of drainage tubes in all similar excisions, and indeed in all compound comminuted gunshot fractures where there is



much muscular tissue. Pus will not always readily flow, even from most dependent wounds.

U.S. ARMY GEN'L HOSPITAL, FAIRFAX SEMINARY, VA.  
June 26, 1863.

## Reports of Hospitals.

U.S. GENERAL HOSPITAL, ANNAPOLIS, MD.  
COMPOUND GUNSHOT FRACTURE OF THE FEMUR,  
TREATED WITH SMITH'S ANTERIOR SPLINT.

By B. B. MILES,  
ACTING ASSISTANT SURGEON U.S.A.,

I.—*Fractures of the Neck of the Femur, caused by a Musket-ball.*—BOUGH, age over 30 years, was wounded in the battle of Williamsburgh; after remaining on the field for some time, he was carried to the rear, and simple dressing of cold water was applied to the wounded thigh. The patient states that the amount of hæmorrhage was small, and the shock to his constitution was very great, with sharp stinging pain in the thigh. He also states that it was impossible to sleep on account of the pain. Five days afterwards I received him from a government transport. On examination, a bullet wound was discovered in the right groin, below and external to the superior spinous process, and a posterior wound was discovered in the buttock. The bullet was presumed by him to be a round ball. On making the usual measurement from the anterior superior spinous process to the ilium, and to the inner condyle of the femur, there was found no shortening, but crepitus was distinct. On passing a probe in at the anterior opening, fracture could be felt. The limb was swung in Smith's anterior splint. The suppuration was copious, yet healthy in color and consistency. He had now no difficulty in sleeping, nor did I find it necessary to give him a narcotic. He remained in the splint over two months, treated with cold-water dressing, to the great relief and comfort of the patient. By measurement of the limb, it was found that the shortening amounted to one inch and a half. The general health of the patient has improved rapidly, and convalescence was not interrupted by a single accident. He returned home cured. It has been the opinion of the surgeons of Europe, and among them Mr. Guthrie is the most prominent, that no person has been known to survive for any length of time a fracture of the neck of the femur.

I know of a lady, aged sixty years, who fell on a sleety day, fracturing the neck of the femur. She recovered with shortening of one inch and a quarter. She was alive two years after the accident, and walking without the assistance of a cane. Treated on the anterior splint.

II.—RUFF, Penn. Vol., aged 45, native of Ireland, was wounded in the seven days' fight by a round ball, as he supposed. The musket-ball struck the anterior aspect of the right thigh, passing on, fracturing and comminuting the right femur, and finally passing out nearly opposite on the posterior surface of the thigh. The fracture of the femur was at the junction of the middle and upper third of the bone. The patient states that the amount of hæmorrhage was small, and the shock very slight, he only experienced a sharp pain in the thigh. He was carried off the field immediately or after the firing had slackened, and was obliged to remain unattended until the following morning. His wound was dressed with cold-water dressing, and then he was put upon a government transport, where he lay for some thirty-six hours, not even water being applied to his wounds. I saw him the third day after the injury. The leg was placed in the anterior splint, and treated with cold-water dressing. The suppuration that followed was copious, but healthy in color and consistency. He remained in the splint two months before it was taken off, and then it was found that the fragments had united firmly. He was accordingly allowed to wear crutches.

During the treatment small fragments of bone from time to time came away. By accurate measurement of the limb, and comparing it with its fellow, the shortening

was ascertained to be one inch and a half. The general health of the patient improved rapidly, and there was no local deformity at the point of fracture. He returned home without the use of a cane, cured.

III.—NOLL, N. J. Vol., aged 20, a farmer, and of good constitution, was wounded at the battle of Antietam. He was taken prisoner and sent to Richmond; he remained there several days with little or no treatment. When admitted, his condition at that time was enfeebled by hunger, thirst, loss of blood, profuse suppuration, and fatigue of the journey. The bullet, supposed by the patient to have been a minié ball, entered the anterior surface of the left thigh at the middle, passing downwards and backwards, fracturing the bone in its lower third, and emerging posteriorly about six inches below the point of entrance. Up to this time (15 days having elapsed) no apparatus or dressing of any description had been applied to the limb. The appearance of the limb, on entering, was swollen, the anterior and superior wound looked healthy; but the lower wound was much enlarged and suppurating most profusely. You could easily introduce your finger and feel the shattered bone, but as no detached pieces presented, the limb was swung in the anterior splint, and according to his statement he has not slept for a week; but since the application of the splint he has not passed a sleepless night: cold-water dressings were applied; beef-tea, stimulants, and tonics, were necessary to support the general system. Two weeks after entering the hospital, and the 27th day after the injury, the wounds were suppurating copiously, but healthy in color and consistency; small fragments of bone came away, and he convalesced slowly. The splint was not removed for ten weeks, and then the lower wound was discharging. No deformity of the limb noticeable, and the position perfect. By accurate measurement of the limb, shortening is ascertained to be one inch and three-quarters. He was able to return home cured.

IV.—*Fracture of the Femur through the Great Trochanter, caused by a Minié Ball.*—McCAYE, Mass. Vol., was wounded at the battle of Antietam: after remaining on the field for some time he was carried to the rear and placed in a barn, where he remained for about two weeks. The patient states the amount of hæmorrhage was considerable, and the shock to his system was very severe. He also states it was impossible to sleep on account of the pain, and the noise of the others in suffering. The musket-ball entered the anterior aspect of the right thigh, about three inches and a half below the anterior superior spinous process, passing on, fracturing and comminuting the right trochanter, and finally passing out nearly opposite: his wounds were dressed with cold-water dressing. He was sent in an ambulance to the General Hospital at Frederick City. The transportation on a rough road irritated the parts, causing active inflammation. The suppuration that followed is described as being copious, but healthy in color and consistency. The limb was swung in the anterior splint. The wounds caused by entrance and exit of the ball healed kindly, and rendered no further annoyance. At the end of three months the dressing was removed, and it was found that the fragments had united firmly; but owing to abscesses in the axilla, he could not use his crutches. By accurate measurement of the limb, and comparing it with its fellow, it is ascertained that the shortening is not over three-quarters of an inch, and he walks about without the assistance of a cane. His general health is fast improving. During the treatment several pieces of bone were removed, and his case is one of the most promising that I have ever witnessed.

(To be Continued.)

THE expenditure of the British Medical Council during the past year, 1862, was £4822. Its income was £4661. The excess of expenditure over income was, therefore, £160. This bad balance-sheet is attributed to the fact of £600 advanced to the *Pharmacopœia* Committee. The estimated accounts for the present year, 1863, show a balance in favor of the Medical Council.—*British Med Jour.*

## Reports of Societies.

### NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, JULY 1, 1888.

DR. JAMES ANDERSON, PRESIDENT, IN THE CHAIR.

#### ALCOHOLIC STIMULANTS IN PULMONARY TUBERCULOSIS.—DISCUSSION OF DR. FLINT'S PAPER.

DR. FLINT read an elaborate and interesting paper, entitled the "*Management of Pulmonary Tuberculosis, with Special Reference to the Employment of Alcoholic Stimulants.*" It consisted mainly of a clinical report, based upon sixty-two cases of arrested tuberculosis. These cases are analysed and compared as regards points of agreement relating directly and indirectly to the management, the main objects of inquiry being the evidence afforded of self-limitation, the influence of hygienic measures, the agency of remedies, and the importance of alcoholic stimulants in determining the arrest of the disease. He considers that the disease is arrested whenever the general and local symptoms show it to be non-progressive for several consecutive months. After the arrest, the recovery may or may not be complete. In many of the cases the recovery was complete, while in others a certain amount of cough and expectoration continued for a considerable period of time, in two cases for more than twenty, and in one case for forty years.

For convenience of analysis he arranges the cases in three groups. I. Those in which no curative or hygienic methods of management were employed. II. Those cases in which hygienic measures were employed. III. Cases in which remedial measures, including alcoholic stimulants, were supposed to have had a curative influence. I. In the first group seven cases are collected, of which four recovered entirely. II. The second group includes twenty cases, in twelve of which the recovery appeared to be complete, in eight the arrest of the disease was not followed by complete recovery within the period that the condition of the patients severally was known. The ages in this group ranged between nineteen and fifty years, and seventeen of these were males. In only four of the cases are there any grounds for supposing that climate had any curative influence. The most important point of agreement developed by the analysis of this group of cases relates to change of habits as regards exercise and out-door life, and the agreement in this respect is highly significant. III. The third group embraces thirty-five cases. Only one of these cases was treated with tonic remedies, exclusive of cod-liver oil and alcoholic stimulants. In four tonics were employed in conjunction with alcoholic stimulants, and in two tonic remedies were conjoined with cod-liver oil; alcoholic stimulants and cod-liver oil were employed conjunctively in eight cases. Stimulants, oil, and tonics were used in one case. The curative remedies employed were only three in number: cod-liver, alcoholic stimulants, and tonics of iron and quinine. In five of the thirty-five cases, the curative treatment consisted exclusively of cod-liver oil; in two of these the symptoms entirely ceased. Of these thirty-five cases, in fourteen the curative treatment consisted exclusively in the use of alcoholic stimulants; of these fourteen cases of arrest, in nine the recovery was apparently complete. Generous living was inculcated and adopted as far as practicable in all the cases.

The most striking and valuable of the results of the analytical study of these sixty-two cases is their almost uniform agreement as regards change of habits with respect to exercise and out-door life at the time of the arrest. Excluding the seven cases of the first class, and two in which the facts with respect to this point were not noted, of the remaining fifty-three, in all save three, the histories show a greater or less change of habits to have been made; and in many cases the change consisted in relinquishing sedentary callings for other pursuits, in order to carry out more effec-

tually the desired reformation. Regarding the indications for the use of stimulants, Dr. Flint says:—

"If their immediate effect be that of a cordial stimulant, that is, if they produce a sense of comfort: if they are followed by a feeling of increased strength, and a greater disposition to exercise; if they do not excite unduly the circulation or nervous system, I believe we may expect benefit from their use. *Per contra*, if their immediate effect be discomfort; if they are followed by a feeling of increased weakness and less disposition to exercise, and if they excite unduly the circulation or nervous system, I believe they will not do good, and may perhaps do harm."

With respect to the formation of habits of intemperance, he remarks:—

"In not one of the cases which I have reported has there been developed, so far as I know, a craving for stimulants, or a reliance upon them, rendering it difficult to relinquish their use. I have had my attention directed particularly to this point of observation, and I have not yet found an instance in which there was any apparent reluctance to discontinue the use of alcoholic stimulants whenever it was deemed advisable. I have not yet found an instance in which their use was continued after they were declared unnecessary; in short, up to this time I am not aware that in a single case among the many cases in which I have advised alcoholic stimulants, has a patient fallen into intemperate habits. \* \* \* I certainly am not prepared to advocate the use of alcoholic stimulants as a prophylactic; that is, to sanction indulgence among those who may believe or fancy that they are in danger of becoming tuberculous. I would not advise their use in doubtful cases; they should follow a clear diagnosis, based on signs and symptoms. In persons with the unfortunate idiosyncrasy which leads to an irresistible craving on the slightest indulgence, the immediate effects would always contraindicate their use in conformity with the rules which should govern our practice in cases of tuberculosis. And, finally, when employed as a remedy, they are not to be taken as a means of conviviality, or for any other than a curative influence."

DR. DETMOLD was not able to reconcile the clinical and autopsical history of phthisis with the generally received theory as to its cause. It was claimed that the respiratory function was the one that suffered. This he could not believe, because, if there was a deficiency of oxygen admitted to the blood, digestion still remaining active, there would necessarily be a chance for the accumulation of fats. But the reverse of this was the case. Again, the most successful remedies used for phthisis were the hydrocarbons. This, to his mind, did not prove that the disease was due to any great want of oxygen.

DR. GRISCOM thought that the disease depended on the lack of carbon in the blood instead of oxygen, and instanced in proof of that fact the beneficial influence of fats as remedial agents.

DR. MCCREADY alluded to the fact that alcohol was discharged from the body, as such, and acted beneficially only so far as it stimulated digestion and aided assimilation.

DR. HORACE GREEN had only employed alcohol as an adjuvant to other remedies, and therefore could only speak approximatively of its effects. Conjoined with tonics and out-door exercise, he had seen great benefit from its use.

DR. FLINT, JR., was of the opinion that inasmuch as the process of nutrition was very much interfered with, the indications were to bring that process to the normal state. He believed that alcohol conducted to such an effect, not by its actual consumption, but by its mere presence, the same as did common salt. He alluded in the course of his remarks to the results of experiments upon alcohol made by Surgeon-General Hammond, who claimed to prove that by its use the amount of urea excreted was really less than without it, and that a person could do more work with a less amount of food. With regard to

the habitual practice of using ardent drinks, he remarked that it caused healthy persons to live too fast, and become in consequence prematurely old. In disease, however, the effect of alcohol was simply by its presence beneficial in stimulating digestion and aiding assimilation.

DR. PARKER spoke strongly against the practice of whiskey drinking, which was becoming so common in the community on the slightest pretence, and thought it well that practitioners should be on their guard against prescribing it when they were in any doubt concerning its beneficial effects.

DR. BLAKEMAN related the case of a young lady who, in consequence of the prescription of a physician, was led into habits of intemperance to such an extent that in the course of eight months she was accustomed to take two and a half pints of brandy daily. She died a drunkard.

DR. POST related a similar case of a young man, with strong hereditary predisposition to consumption, who, upon the advice of a physician to stimulate freely, also became a drunkard, and eventually died of delirium tremens.

DR. PEASLEE was in favor of stimulants in phthisis, when a good effect could be obtained by nothing else. He considered alcohol useful as a stimulant to digestion and to the nervous system, as well as a generator of animal heat. He thought it impossible that alcohol should arrest retrograde metamorphosis, as claimed by Dr. Hammond.

DR. BATCHELDER stated that during a practice of over half a century, having pretty generally prescribed stimulants, he had never known a single case of habitual drunkenness as the result.

The Academy then adjourned.

## FOREIGN CORRESPONDENCE.

### LETTER XXXIX.

By PROF. CHARLES A. LEE.

ROME.

November 21, 1868.

THE city of Rome lies in a vast undulating valley, extending up from the Mediterranean, and inclosed by a framework of mountains. It is watered by several rivers, of which the Anio and Tiber are the principal. A great portion of this plain, if not the whole, gives evidence of having been once covered by the sea; but there is also equal proof of igneous action. Monte Mario, on the right bank of the river, and 440 feet above the sea, abounds with fluvialite and marine remains, while most of the hills and mountains encircling the plain are of volcanic origin. Mount Soracte over the Tiber, however, is calcareous, as is also the Monte della Petra on this side, as well as the whole chain of mountains from Magliano to Piglio, forming part of the Apennine chain. We find fluvialite deposits on the Pincian hill as well as on the Esquiline and Aventine; but we also meet with lithoidal tufa of volcanic origin on the Capitoline, the Aventine, the Esquiline, and the Caelian, as well as many plains outside of the city. Indeed the great mass of the seven hills on which Rome was originally built is of volcanic origin, and we can trace distinctly a bed of lava from the elevation on which the tomb of Cecilia Metella is situated, six miles from the city, to the Alban Hills, some ten miles distant. The inference is plain that the soil of the great basin of Rome has been chiefly formed by volcanic eruptions, and that previous to that time it had been covered by the sea. The craters of these extinct volcanoes are still to be seen in the vicinity of the city, forming lakes of greater or less extent, or excavations destitute of water. The Tiber, like the Arno at Florence, is a muddy, turbid stream at all seasons: some of the old classic writers call it "*flavus*," and Virgil "*cœruleus*," but instead of being yellow or azure, at present it is of a whitish-grey, or clay color. Doubtless its color varies according as it is troubled or not with floods. There are no quays, and the banks are consequently being worn away and constantly changing. Its average depth where it passes through the

city is from ten to twenty feet. The fish found in it are the sturgeon, shad, gudgeon, pike, mullet, dog-fish, carp, bream, and eel. It not unfrequently overflows its banks, and there are several most disastrous inundations on record.

Rome is supplied with the purest water through its aqueducts, although the quantity is inconsiderable when compared with that brought into ancient Rome. There were in the reign of Claudius nine aqueducts, eight of which were on the left bank of the river; of these the *Anio Novus* was sixty-two miles long, forty-eight of which were under ground; the Claudian aqueduct was forty-six miles long, thirty-six subterranean, and for ten miles it was carried on lofty arches, six miles of which are still seen stretching across the Campagna. All these aqueducts converged to nearly the same point, and entered the city at an elevation considerably greater than any of the hills on which it was built, so that the water was readily distributed to every part, and supplied innumerable fountains; the source of supply also being in volcanic strata, the water was free from lime and extremely pure. Of these eight ancient aqueducts on the left bank of the river only one is in use at the present day, viz. the *Aqua Virgo*, which was constructed by Augustus. Its course is mostly subterranean, and it furnishes, it is said, the best water in Rome. It also supplies thirteen large fountains, furnishing over sixty-six thousand cubic metres of water daily. The *Albentine* aqueduct, constructed by Augustus on the right bank of the Tiber, thirty miles long, is still in good condition, having been kept in repair by the Popes, and supplies the fountains in the piazza of St. Peter's, and numerous flour mills, which was one of its principal uses in ancient times; but besides these sources Rome abounds with springs and wells of pure water. The least depth of the wells is twenty-eight feet, and the greatest one hundred and twenty-two on the Palatine. The depth of wells on the plains varies from ten to twenty feet, according to the greater or less accumulation of rivers. Seven of these springs have been converted into public fountains, and the physicians here regard their waters as extremely salubrious. I have certainly never tasted more palatable water in my life, nor seen any of apparently greater purity. In exploring the old *Cloaca Maxima*, built some six hundred years before the Christian era, and still fulfilling the purpose for which it was originally constructed, I came across a most abundant spring, limpid and sparkling, pouring its waters over the rocks, which is deemed highly medicinal by the Roman people, and eagerly sought after by all classes, though entirely destitute of any sensible properties. There are also three celebrated mineral springs in the vicinity of the city called *Aqua Acetosa*, *A. Acidula*, and *A. Santa*. The first derives its name from its acid taste, doubtless owing to sulphuric acid, like some in the western parts of our own State. It is diuretic and slightly laxative, and the spring is much frequented by the Romans in the morning. It is in great repute in hepatic affections. The *A. Santa* is about three miles from the city, and its waters are extensively used for baths as well as internally, especially in summer. The *A. Acidula* is similar to the *A. Acetosa*, only weaker, and is used for the same complaints. It is a well known fact that few parts of modern Rome present to the eye the original soil on which stood the ancient city—a fact sufficiently explained by the millions by whom the city has been peopled, and the various vicissitudes it has undergone. Besides the ordinary causes which are in operation in most cities, such as the elevation or depression of the soil for the construction or alteration of streets and houses, the transfer of ruins or rubbish from one locality to another, and the silent but ever active influence of time, Rome has been repeatedly overwhelmed by the hand of man, by flood and fire, and has also repeatedly risen on its own ruins. Excavations made on various occasions and for various purposes have disclosed in many places the height of the superincumbent masses. On the hills that were covered with ancient edifices, such as the Capitoline and the Esquiline, the general elevation of the soil is about eight feet; but there are some remarkable excep-

tions, as on the Coelian, where the first story of the house of Augustus is completely entombed, and near the church of St. Paul and St. John the ancient jail is more than eighty feet below the present surface, and near the arch of Dolabella it is thirty feet; while the valleys have been filled up from nine to thirty feet above their ancient level. Owing to this circumstance the distinct boundaries of the seven hills of ancient Rome are not easily defined, and some of them have almost entirely disappeared. It is a well known historical fact, moreover, that before the incursions of the barbarians the jail had risen several feet above the ancient level. In examining places where excavations had been made I find the lowest stratum presenting either aqueous deposits, the result of inundations, or vestiges of conflagration, or ruins of fallen edifices, over which lie successive heaps of rubbish of every sort. It is generally admitted that the *Campagna* of Rome was at a very remote period thickly inhabited, of which its numerous ancient cities, whose ruins still remain, are a sufficient evidence; at a later period we also know that the neighborhood of the city was deemed highly insalubrious, as it is at the present day. Cicero speaks of Rome as a healthy city in the midst of a pestilential region; and Livy, speaking of the mutiny of the Roman garrison of Capua, among other grievances says, they complained of being confined in an unhealthy district outside of the city. Strabo, also, says, that in his day the insalubrity of the air was confined to a few places in the neighborhood of Ardea, Antium, and the Pontine Marshes. But during the first three centuries of the Christian era the *Campagna* was thickly studded with numerous suburban villas, as their ruins still attest. At present it has returned to the state of abandonment and consequent insalubrity mentioned by Cicero and Livy. This corresponds exactly to what we have sometimes observed in our own country. The air of the *Campagna* has been different at different periods; salubrious, as a general rule, when populous and well cultivated; and insalubrious when not tilled, and comparatively reduced to a wilderness; so that its insalubrity is not owing, as many suppose, to its having been formerly better drained than at present, but to its better cultivation and denser population. Still, there are permanent causes which will always render the *Campagna* more or less unhealthy: its surface lies at so low a level that it is difficult, if not impossible, to drain it well; the waters that fall in rain, descend in torrents from the neighboring hills, or escape from the aqueduct, are retained and stagnate in the soil; immense quantities of animal and vegetable matters are constantly undergoing decomposition during the summer droughts. In the days of Trajan it was believed that the city was rendered unhealthy by the Pontine Marshes, though forty miles distant; but it is far more likely that the causes of disease were, as at present, in the city itself or its immediate neighborhood.

In regard to the healthiness of the city at present there are different opinions, for while some contend that it is extremely healthy, others maintain quite a contrary opinion. English and American physicians, resident practitioners here, inform me that the atmosphere of Rome is extremely salubrious, that its climate is far preferable to that of Florence or Naples, and that, above all others, it is the place for all pulmonary invalids. One thing, however, is certain, that intermittent and remittent fevers, and those too of the pernicious or highly congestive character, are very prevalent here during the summer and autumnal months. While visiting the military hospitals of the Papal army I found some two hundred cases of malarious fever, or patients slowly recovering from splenic engorgements or other of its sequelæ; and on inquiry of the attending surgeons I was told that all these cases originated in Rome, that the soldiers had constantly been confined to the city, and that this class of diseases was extremely common in Rome during the summer and fall. The Papal army in Rome, I may mention, consists of 3000 men only,

although there are in all 8000 throughout the entire Papal dominions. Every person here admits that Rome is very subject to frequent, sudden, and extreme changes from heat to cold; that its sun is often intensely hot, so much so as to render all exertion during three or four hours in the middle of the day during the hot season extremely dangerous; hence, all labor, except what is absolutely necessary, is suspended during that time. The difference of temperature between day and night is also very great, and this, doubtless, also is a frequent source of disease. The most populous quarters of Rome are admitted to be the most salubrious, a fact which we often meet with in other cities if due attention is paid to sewerage and cleanliness. Lancisi and other Italian medical writers maintain that Rome can produce more examples of longevity than any other Italian city, centenarians being quite common. I believe there are no statistics on which we can rely if indeed, there are any at all, showing the rate of mortality in the city, or any of the States of the Church. One fact has been well ascertained, and it is important to those who come here to spend the winter, that during the winter months the city is entirely free from malaria, and one may reside here with perfect safety so far as regards malarious attacks. It is worth mentioning, too, perhaps, that the Romans themselves never leave the city for the country until after the summer heats, the city being regarded as by far the healthiest residence. Professor Secchi, the distinguished astronomer and physicist, in charge of the Observatory of the Collegio Romano, informs me that electrical changes and disturbances are extremely great and frequent in Rome, and that he has distinctly traced a connexion between them and nervous affections, the latter being greatly aggravated by such disturbances. As he has, however, promised me a detailed account of his observations, I shall pass the subject by for the present. The winter temperature of Rome is very mild: mean temperature of the year, 60° Fah.; of winter, 45°; spring, 57°; summer, 95°; autumn, 62° Fah.; mean temperature of hottest months, 97°; coldest, 42°.

I have thus given a kind of bird's eye view of some matters which may possibly interest your readers. In my future letters I shall speak more in detail, and particularly in regard to the hospitals and charitable institutions of the city.

It is not very long since we noticed the fact that the French Academy had awarded 2,000 *francs* to M. Kœberle, of Strasbourg, for two successful cases of ovariectomy. In singular contrast to this illustration of the state of operative surgery on the other side of the Straits of Dover, it is worthy of note that, at the last meeting of the Pathological Society, Mr. Spencer Wells exhibited eight ovarian tumors which he has removed within as many weeks, six of the cases proving successful; and that, in giving his experience of the operation during the present session of the Society, he said that he had operated during the session on twenty-seven cases, with a result of twenty-three recoveries and four deaths. His total experience he stated to be sixty-three cases, with a result of twenty deaths and forty-three recoveries. The greater success of late he attributed to the greater knowledge acquired by increasing experience. It would be rather an expensive undertaking for the French Academy to reward our successful ovariologists at the same rate as M. Kœberle.—*British Medical Journal*.

THE death of M. Renault has been announced to the Academy. M. Renault had received a commission to investigate the typhus attacking the cattle in the Pontine Marshes. He there contracted a deadly fever, and died at Bologna. It is said that he died of disease contracted from the cattle. M. Renault was born in 1805. He was Inspector of Veterinary Schools, and formerly professor at the Alfort School.—*Brit. Med. Jour.*

## American Medical Times.

SATURDAY, JULY 11, 1863.

### AN INDOLENT PROFESSION.

EVERY one interested in the welfare of medical science must have been struck, within the past year or two, with the growing inactivity of the profession as a body. The love for work by the great mass of the medical men seems to have been lost almost past redemption. Startling as this assertion may at first appear, we have certainly facts enough at hand to compel us to a humiliating acknowledgment of its truth. If search were to be made among the community of medicine, how many there would be found who would be compelled to confess to the truth of not opening a text-book for months at a time. The proportionately large number of such would be found truly appalling. No one can complain that the stimulus to exertion is not sufficient, for in every section of our country are to be found societies that are ready to invite discussion upon any medical topic, and the medical journals are willing to open their columns to every one who is zealous in the cultivation of his science; and yet what a pitiful record have we to make of the doings of the profession of this country. Some of our best societies can scarcely get together a quorum, and many of the most valuable papers that are read before them almost utterly fail to wake up any interest or provoke any interchange of opinion. This certainly is very poor encouragement to the few workers who are still to be found among us. Too many there are who attend our societies, who have scarcely energy enough to listen more than ten or fifteen minutes to a memoir before their eyes are heavy, and they nestle themselves for a comfortable nap until the time for adjournment arrives. We must not shut our eyes to the fact, also, that most of the older and more influential members absent themselves for months at a time from scientific deliberations, and deprive those who really are interested in the pursuit of knowledge, and who are consequently entitled to the results of the experiences of such men, of matured opinion and healthy counsel.

In view of this state of things, we do not hesitate to impeach those guilty of such neglect as violating the gravest of responsibilities by setting an example which cannot and will not fail to exert a deleterious influence, more or less general, upon the whole medical community. A certain character of meetings are always well attended, but this can perhaps be explained, not so much from the interest manifest in the topic to be discussed, as in the character of the refreshments which are to be served at the end.

Again, if we look into medical literature we can find still other proofs of a lack of vitality in scientific pursuits in the paucity of contributors to the different periodicals. With all the great resources afforded by large hospitals, dispensaries, and the like, what a comparatively small amount of material is collected therefrom to serve the common good! How few there are of those who enjoy unbounded opportunities for clinical experience that place the results of

these labors upon record. There is no excuse for this. No one who has the good of the profession at heart has a right to withhold from it any of the results of experience or investigation which may be in his possession. It is common property, and should be dealt out as such, that all may be benefited by it. The never failing excuse for not doing so on account of want of time, is too senseless a one to be at all considered. It is not so much the want of time as it is the lack of energy to turn spare time to account. We are compelled to make the mortifying statement that many of our most celebrated practitioners, especially in New York, who have almost grown grey in the service, have hardly made a single record of their doings. May posterity give them the deserving punishment by forgetting them. This lukewarmness among us must be counteracted by a healthful stimulation to renewed exertion; the advancement of science, the interests and the honor of the profession demand it! But we cannot hope for better things until each individual member of the community appreciates his own duty in the matter, and the degree of accountability which he has to the profession as a whole. When each one does his part, and all work with one will, then, and not till then, will a rejuvenation take place. We have among us too few devoted students, too few who quietly, persistently, and untiringly work for the "very work's sake," and who strive to give others the benefits of their labors. We are afraid, however, that we have to look for most of these among the rising generation, inasmuch as too many of the older members are past conversion.

### THE WEEK.

THE alarming extent to which alcoholic stimulants are being resorted to as a beverage by the public should attract the serious consideration of physicians. The vice is beginning to find its way into all classes of the community, and the opinion is fast becoming prevalent that, used in moderation, stimulants are not only harmless, but actually beneficial in promoting health and strength. The various quacks who trump their "bitters" into the market are beginning to understand this, and have already reaped a golden harvest from a very extensive sale of their nostrums. In the army also liquors are very extensively used for other than remedial purposes, and among them Bourbon whiskey seems to be the favorite. A very interesting question in connexion with the prescribing of stimulants, came up for consideration in the discussion upon Dr. Flint's paper before the Academy of Medicine, and the points which were there alluded to deserve the attention of every practitioner in the habit of indiscriminately prescribing alcohol. Physicians can do much towards educating the people against the habit which they have fallen into, and at no time have their services in this respect been more urgently called for. Setting aside the deleterious influences of the continued use of pure liquors, a great amount of harm must necessarily be caused by the use of an inferior article, of which we have reason to suppose there is an abundance in the market, on account of the increasing demand.

WE call attention to a lecture in this number of the *TIMES* by DR. PERCY, on the *Veratrum Viride*, as a means of diagnosis in diseases of the chest, and hope that it will receive the attention and criticism that such a subject

deserves, from those particularly interested in studying auscultation. Matters of such importance should be freely disseminated; and we will afford every opportunity to free discussion.

VERY extensive preparations are now in progress for cleaning the streets of this city under the auspices of the new Street Inspector. If he follows out the plan which he proposes to do to its completion, we may once more hope for a salubrious dwelling-place. The city was never in a more filthy condition, which is saying a great deal.

THE various medical societies of the city have taken a recess for the summer months.

## Correspondence.

### CLIMATE OF SAN SALVADOR.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SAN SALVADOR, April 26, 1888.

SIR:—Before leaving the United States I was requested by several members of the Academy to inform them of the adaptation of the Pacific coast for invalids requiring a change of climate, and more especially those affected with incipient tubercular disease, or even the more confirmed forms of consumption.

A residence of one year in this locality, together with considerable experience in the treatment of the diseases incident to the country, enables me to reply in part, at least, to the queries put to me by your members on this subject. The seasons are divided into the dry, when comparatively no rain falls, and the wet, when showers occur nearly every day. The former usually begins about the middle of October, and terminates about the middle of May. The latter occupies the remainder of the year. During the months of November and December, and a part of January, strong winds prevail from the north, and reduce the temperature, especially in the upland districts, to a very unpleasant degree. This is the coldest season of the year. The thermometer rarely indicates a fall below 60° Fahrenheit, yet the mornings and evenings, more especially the latter, appear so cool as to render a fire (which, by the way, is seldom met with in the dwellings of the natives) quite agreeable.

Upon the subsidence of this wind the temperature rises in the city and neighborhood of San Salvador, which is about 2200 feet above the sea level, to 76°, and as the season progresses into March and April, to a still higher range, but seldom above 80°. This is the warmest period of the year. The wet season is marked by a diminution of temperature of several degrees, seldom below 72°, and usually 74° to 76°, which continues with much regularity. The night is at all seasons cool enough to be comfortable, and during the entire rainy season a blanket for covering is absolutely necessary.

The rainy season, which to my mind is the most delightful of the year, is very far from being one of continuous rain. Indeed, a period of three or four days' incessant rain, as frequently occurs in the United States, is almost unheard of. The sun at this season invariably rises in a clear and cloudless sky, and warms into life a landscape freshened and made fragrant by the shower of the preceding night. This is the period of growth, and the rich tropical vegetation, with its deep hues and its many-colored flowers, is now seen in its greatest perfection. A rich undulating landscape, covered with this many-tinted verdure, an atmosphere clear and exhilarating, and at the same time balmy, and the music of the birds that twitter in the deep foliage, many of which are quite familiar to the United States, cannot fail to tempt the invalid out at an

early hour to enjoy its freshness and invigorating influence.

This sunshine invariably continues until one o'clock, at which hour clouds often gather and fall in the form of a heavy shower of from a few minutes' to an hour's continuance, after which the sun again makes its appearance, and may continue until its setting. These afternoon showers are by no means regular, and it often happens that weeks pass without their occurrence. The night, however, seldom passes without one. No one, on awakening in the morning, asks whether the sun shines or not, because sunshine is invariable at this hour, and in nineteen days out of twenty the air is balmy and refreshing. The exception to this rule is only found during the high winds of November and December.

The diseases are such as are usually met with in a healthy locality in the United States, except that cases of goitre are quite frequent, and tubercular consumption seldom or never seen. Among the poorer classes the habitations are wretchedly built, and their occupants much exposed to the sudden vicissitudes incident upon sunshine and shower. Pulmonary affections, as pleurisy and pneumonia, are not uncommon, and catarrh, attended by much bronchial irritation and cough, is a very frequent complaint; and yet I have not met with a single case of confirmed tubercular disease, which is the more remarkable as the inhabitants, who are a mixture of the Spanish and Indian races, exhibit in the delicacy of their structure and peculiar organization all the characteristics of a scrofulous diathesis, which, in a climate like that of the United States, would doubtless rapidly light up into confirmed consumption.

Reasoning from these premises, I should suppose the climate of San Salvador peculiarly fitted as a residence for consumptives. The only positive facts I have on this point are the cases of two young gentlemen who were sent from England by respectable medical men, in what was said to be a condition of decided tubercular disease. They have both recovered, and are now active business men.

San Salvador is a city of eighteen or twenty thousand inhabitants. Its environs abound in delightful scenery, among which are many well cultivated estates, some excellent drives, and many picturesque rides suitable for horseback exercise, but not for carriages. There is, moreover, in its vicinity, the means of changing the climate to a higher or lower situation in a few miles.

The facility with which the journey is made from the United States, and the accommodations here, adapt it for invalids of both sexes. The native hotels, however, in all Central America, are, at the best, wretched affairs, and the tastes and customs of the inhabitants so different from those of other countries that the invalid would find himself but poorly accommodated in either; but there is in San Salvador an English hotel which may be safely recommended. To those who speak French, a selection may be made of a second, but for citizens of the United States the former is certainly the preferable establishment. The prices at these hotels, including such extras as one in delicate health might require, need not exceed two or two and a half dollars per day. For families who prefer their own establishment, houses may generally be obtained, and as the furniture is usually meagre, a couple of hundred dollars may serve for this purpose. I would recommend to persons coming here, whether intending to set up their own establishment or not, to provide themselves with pillows and mattresses, as the best of the native population prefer a simple mat to any softer bed, a custom I certainly am not disposed to adopt, and which the invalid would find still more inconvenient.

Should any member of the Academy see fit to recommend an invalid to visit this place upon the strength of this letter, or should any invalid adopt the suggestion for himself, I will endeavor, as far as I am able, to see that he is properly provided with accommodations and suitable attendance. I would remind him that, although he may find a delicious climate and bright skies, beneath which he may



take out-door exercise nearly every day in the year, yet he will miss many things he is accustomed to at home, and find many peculiarities that may not impress him favorably. These, however, are trifling matters in comparison with the prospect of a restoration to health, and one which an invalid would gladly subject himself to.

My own experience in the treatment of consumption while in the United States, and which, I imagine, does not differ from that of the members of the Academy, was so melancholy that I would gladly have hailed any resort to change of climate which held out any prospect of success as a great boon, but I was so often disappointed in the result that I came to look with the same suspicion upon this mode of relief that I did upon others; nor do I now assert that the favored climate which

"Bears healing on its wings"

for this class of patients is yet discovered. I only say that this is the only country in which I have had any medical experience, where consumption does not exist; and I think I am justified in reasoning, *a priori*, that the causes that prevent its occurrence may succeed in arresting its progress, even after it has been partially developed.

Yours truly,

JAMES WYNNE.

### ARMY RELIEF BILL.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—In your paper of May 9th, a paragraph appeared under my signature, which was intended to characterize the publication of the bill in the TIMES of the 28th of March, known as the "Army Relief Bill," and the procuring its publication, as a "gross fraud."

I have been interrogated several times as to what was intended to be characterized as a "gross fraud;" perhaps it was not clearly defined. It consisted, in my opinion, in procuring the publication of what purported to be a bill, presented to, and pending in the Legislature of New York; while the fact is the bill, as published in your paper, was not before that body at that time, had not been presented to that body, and further, was never before the Legislature or any committee of the Legislature of the State of New York, during its late session, or at any former session. Procuring the publication, therefore, of what purported to be a measure introduced into the Legislature of New York, was a "gross fraud" upon your paper and the public.

Respectfully,

JOHN SWINBURNE.

ALBANY, June 22, 1893.

## Army Medical Intelligence.

OFFICE Supt. U.S. MILITARY GENERAL HOSPITALS,  
MEMPHIS, TENN., June 15, 1893.

### SPECIAL ORDERS, No. 111.

The following assignment of Medical Officers is announced; they will be obeyed and respected accordingly.

Surgeon J. G. F. Holston, U.S.V., Inspector of Hospitals.  
Surgeon D. A. Worrall, U.S.V., Adams Hospital.  
Surgeon S. C. Chesney, 29th Illinois Vols. Infantry, to relieve Acting Assistant-Surgeon C. H. Cleveland, U.S.A., in charge of the Officers' Hospital.

Assistant-Surgeon J. P. Wright, U.S.A., to relieve Assistant-Surgeon D. J. Farrell, 70th O.V.I., in charge of the Washington Hospital, the latter on being relieved will report for duty to the commanding Officer of his regiment.

Acting Assistant-Surgeon Cleveland to take charge of and fit up the Church Hospital for the treatment of all cases of erysipelas and hospital gangrene, now existing, or that may hereafter occur among the inmates of the General Hospitals in this city; he will receive special instructions from this Office.

The Superintendent of Hospitals deems this a fitting occasion to manifest his high appreciation of the valuable and efficient services rendered by Assistant-Surgeon Farrell, 70th O.V.I., while organizing and fitting up the Washington Hospital; his zeal and energy are highly commendable.

B. J. D. IRWIN,  
Surgeon, U.S.A., Supt. of Hospitals.

### ORDERS, CHANGES, &c.

The contract of Acting Assistant-Surgeon Lewis A. Hall, U.S.A., has been annulled for attempting to defraud an enlisted man of money which he borrowed from him.

Leave of absence for thirty days has been granted to Surgeon E. T. Perkins, 71st New York Vols.

Surgeon E. D. Dally, U.S.V., and Assistant-Surgeon Andrew H. Smith, U.S.A., have tendered their resignations.

Dra. W. F. Norris, Edward Cowles, and Michael Hillary, have been appointed Assistant-Surgeons in the regular army.

Mr. W. M. Giles, of New York, has been appointed Medical Store-keeper, U.S.A.

The General Hospital at Broad and Cherry streets, Philadelphia, has been closed. Surgeon John Neil, U.S.V., lately in charge, has been ordered to Summit House Hospital.

Surgeon John G. F. Holston, U.S.V., has been assigned to duty as Inspector of Hospitals at Memphis, Tenn.

Surgeon J. E. Quidor, U.S.V., to charge of Convalescent Hospital, Young's Point, La.

Assistant-Surgeon C. J. Kipp, U.S.V., to General Hospital No. 1, Nashville, Tenn.

Surgeon G. R. Weeks, U.S.V., to the McPherson Hospital, 17th Corps, near Vicksburg, Miss.

Surgeon John W. Foy, U.S.V., to Hospital No. 19, Nashville, Tenn.

Surgeon Frederick Seymour, U.S.V., is superintending the erection of a large Field Hospital at Nashville, Tenn.

Surgeon D. P. Smith, U.S.V., has returned from leave of absence, and resumed his duties in charge of Fairfax Seminary Hospital, Va.

Surgeon S. D. Carpenter, U.S.V., has been assigned to the Webster Hospital, Memphis, Tenn.

Assistant-Surgeons L. C. Rice and M. K. Moxley, U.S.V., to the Floating Hospital "Nashville," near Vicksburg, Miss.

Surgeon O. M. Bryan has relieved Surgeon John M. McNulty, U.S.V., as Medical Director, Department of New Mexico. Surgeon McNulty is assigned to duty as Medical Inspector of the Department.

Surgeon J. W. Pittinos, U.S.V., has been assigned to Camp Parole, Md.

So much of S. O. 264, from the A. G. Office, as dismissed Assistant Surgeon John A. Meek, 89th Indiana Vols. on false charges presented by Colonel C. D. Murray of same regiment, has been revoked, and Assistant-Surgeon Meek is restored to his regiment, provided the vacancy has not been filled.

Leave of absence for twenty days has been granted to Assistant-Surgeon J. J. Conlan, 61st Ohio Vols. on surgeon's certificate of disability; and on the same certificate to Surgeon L. E. Norris, 17th Maine Vols., for twenty days.

Assistant-Surgeon H. R. Stillman, U.S.A., to report to Brig.-General A. Schoepf, at Fort Delaware.

Surgeon W. S. Thompson, U.S.V., has been ordered to report to Colonel C. M. Prevost, at Harrisburg, Pa., for duty with the Invalid Corps.

Medical Inspector G. W. Stipp, U.S.A., has been relieved from duty in the Department of the South by Medical Inspector A. C. Hamlin, U.S.A., and has reported for duty to the Secretary of War.

Surgeon Charles Sutherland, U.S.A., now on duty in the Department of the Tennessee, has been ordered to report to Major-General Foster, commanding Department North Carolina, as Medical Director of that Department.

Assistant-Surgeon L. W. Read, U.S.V., to report to Major-General Heintzelman, commanding Department of Washington.

Surgeon William H. Morton, 1st Minnesota Vols., having tendered his resignation, has been honorably discharged the service of the U.S.

Leave of absence for thirty days has been granted to Assistant-Surgeon John G. Perry, 20th Massachusetts Vols.

Surgeon George Buckley, U.S.V., will report in person for duty to Major-General Schenck, at Baltimore, Md., as soon as his services can be dispensed with in the Army of the Potomac.

The appointment of Sherman Morse, as Assistant-Surgeon, 2d New York Cavalry, has been revoked, he having failed to report for duty with his regiment.

Assistant-Surgeon Joseph Swartz, 106th Pennsylvania Vols., having been absent from duty for over three months, has been discharged from service on account of physical disability.

The following assignments to duty of Medical Officers have been made: Surgeon S. D. Carpenter, U.S.V., now on duty at Fort Kearney, Nebraska, and Assistant-Surgeon G. F. French, U.S.V., to report in person to Major-General Grant, commanding Department of the Tennessee, and by letter to Assistant Surgeon-General Wood, at St. Louis, Mo.

Assistant-Surgeon S. E. Fuller, U.S.V., recently appointed, to report in person to Major-General Rosecrans, commanding Department of the Cumberland, and by letter to Assistant Surgeon-General Wood, at St. Louis, Mo.

Assistant-Surgeon W. C. Bennett, U.S.V., recently appointed, to report to the Medical Director, Army of the Potomac.

Assistant-Surgeon P. A. O'Connell, U.S.V., recently appointed, to report to Major-General Burnside, commanding Department of the Ohio.

Surgeon Joseph P. Colgan, 69th New York Vols., having been absent from duty over three months, has been discharged for physical disability.

Colonel George D. Ruggles, A.D.C., and Assistant Adjutant-General, has been ordered to proceed to New York, and there organize such discharged or disabled soldiers and enlisted men in the hospitals for service in the Invalid Corps, as may meet the requirements of General Orders 105, current series. Assistant Surgeon K. Bartholow, U.S.A., has been detailed to assist Colonel Ruggles in the above duties.

Assistant-Surgeon Alexander M. Speer, U.S.V., is on duty at Seminary Hospital, Columbus, Ohio.

Surgeon W. S. Forbes, U.S.V., has been assigned to the 18th Army Corps as Medical Director, relieving Surgeon J. G. F. Holston, U.S.V., who has been assigned to duty superintending removal of the wounded from the Yazoo to the hospitals at Memphis, Tenn., etc.

Surgeon S. F. Elliott, U.S.V., has returned to Hilton Head, S. C., from leave of absence.



## Original Lectures.

DISEASES OF THE RESPIRATORY ORGANS  
IN CHILDREN.BEING A COURSE OF LECTURES PREPARED FOR DELIVERY DURING THE SPRING  
SESSION OF 1868 IN THE COLLEGE OF PHYSICIANS AND SURGEONS, N. Y.

BY THE LATE

C. VAN ALLEN ANDERSON, M.D.,

PHYSICIAN TO CHILDREN'S DEPARTMENT, DEMILT DISPENSARY, N. Y.

## LECTURE IV.—PART I.

## PERTUSSIS, OR HOOPING-COUGH.

ONE of the commonest, most interesting, and least understood of the affections of infancy, is a disease which is both contagious and epidemic in its nature, characterized by a particular kind of cough which returns in frequent paroxysms. The expirations in which the fit of coughing consists, succeed each other with great rapidity, and are terminated by a prolonged and sonorous inspiration which is known as the *hoop*, and from which the disorder has acquired its usual designation.

No positive mention of it can be discovered in the works of the Ancients, nor in those of the Arabian physicians; it has in consequence been presumed to have passed from the East Indies and Africa into Europe. Baillou records in 1578 an epidemic disorder which resembled in many points the ordinary form of pertussis. It arose towards the end of a dry and hot summer, attacked principally children, and the cough was so violent that it produced bleeding from the nose and mouth, and vomiting. In 1682 Willis appears to have intended this disease by his description of a suffocative, convulsive cough of children, and seven years after we have another record of an epidemic of the same kind which prevailed in Paris, by Dr. Schenck. From the commencement of the eighteenth century, however, our knowledge of the disorder becomes fuller and more reliable. Since the year 1724 epidemics of it have been frequent, and differing considerably from one another in many of their features, yet preserved the peculiar and familiar symptoms; sometimes they were marked by a complete absence of fever; sometimes, on the other hand, the fever was sharp, and either continuous or intermitting. In the epidemic observed at Vienna in 1746, the malady lasted from twenty to thirty days, and was marked by frequent epistaxis; that which prevailed in Mecklenburg in 1757 had, as its distinctive peculiarity, the occurrence of nausea and vomiting; while that which reigned in Copenhagen in 1767 was complicated by tertian ague, by convulsive attacks in infants during the period of dentition, by threatenings of suffocation when the cough came on during sleep, and by repeated relapses.

In 1769 the disease appeared in its severest and gravest form in Sweden, and was then observed by Dr. Rosen. It usually began with violent fever, and was accompanied by abundant epistaxis, emaciation, general anasarca, hæmoptysis, and very great mortality; sometimes it terminated in phthisis. In 1806 the epidemic which extended over the continent, chiefly attacked children between five and ten years of age, and had no catarrhal stage whatever, but commenced with hoarseness and sneezing, and was complicated by pneumonia and measles.

In Dillingen, in 1811, the paroxysms came on in the morning, together with convulsions, and in young subjects, delirium; at Milan, in 1815, hooping-cough and double tertian fever appeared in the same patients; during the exacerbations the cough and paroxysms of pertussis vanished entirely, only, however, to be seen again during the interval. It would be impossible, however, to describe the different ways in which it has from time to time manifested itself; in the present day the epidemics of this disorder seem to have lost much of their intensity. The causes that

produce them cannot be appreciated; they invade a village, a town, or an entire district at irregular periods. Their symptoms are at one time severe, at another comparatively unimportant. Hooping-cough too, as you know is common with some of the eruptive fevers, appears but once in the lifetime of a single individual; so that while it may attack an adult or an aged person who has never before been exposed to the conditions which produce it, yet it is seen most generally in infancy and childhood.

First among its causes then, we may rank *age*. Several authors mention instances in which children have come into the world with the disease, and have hooped on the day that they first saw the light. But such cases are uncommon, and indeed during the first six months the malady is rare. Its maximum lies between six months and the fifth year of age. Dr. West says that in 1367 cases 41.2 per cent. were during the first two, 56.7 during the first three, 82.9 during the first five, and 98.4 per cent. during the first ten.

Sex also has nearly as much to do with it as age, girls being far more liable than boys to contract it. Bouchut found that among thirty-three cases seen by him, twenty-one were amongst girls, and twelve amongst boys; and of one hundred cases at the Children's Infirmary of London, 55.3 per cent. occurred in females against 44.7 per cent. in males.

Pertussis chiefly affects feeble and delicate children, especially those which are of a lymphatic constitution, and it prevails in all classes of society. Poor children who are improperly fed, and imperfectly clothed, and who live in low, damp, unwholesome situations, are its favorite subjects. It appears indifferently in all seasons and climates, notwithstanding that it is thought to be more frequent in cold than in warm weather. In the winter of 1841, in London, the greatest intensity of the complaint was during the months of December and January; while in 1845 exactly the reverse took place, for it prevailed most widely during the months of June and July. Atmospheric changes do not seem to exercise much influence over it, but it often comes in the wake of an epidemic of measles, or during a period in which there is an unusual disposition to catarrh.

Several authors have denied its contagious character, but this is now well established by innumerable instances. What the nature of the contagious principle is we are unable to say; it has been supposed to be exhaled from the body of the patient, or to emanate from his breath. Dr. Rosen thinks that the morbid material may be carried about in the clothes of an attendant or physician, and relates an instance to show that he had transported it himself in this way. I will quote two cases of its propagation by personal contact, from the work of M. Bouchut. "Mr. Rosen relates the case of a child who, while in the country, contracted hooping-cough by playing with the children of the gardener who were themselves laboring under this disease. This child successively transmitted hooping-cough to his brother and sister. The mother, who often played with the last mentioned one, was also attacked, lastly the father, and all the servants who were brought into contact with those children were seized with the disease. In the house and around the house, the children and the individuals who did not directly communicate with the patients were free from the disease."

A woman who was confined at her own house early in August, 1843, was visited by one of her parents who lived in quite an opposite quarter of Paris. One of her nephews, who had been laboring under hooping-cough for a month, came to see her. This child remained the whole day near the newly delivered patient, and two days after this visit, that is to say in the fourth day from birth, the infant commenced coughing; eight days after it had hooping-cough.

The mother and child were admitted into the Necker hospital, where we were able to verify the existence of this disease. The child had as many as twenty attacks of cough in the twenty-four hours. Particular inquiries were

made of the mother, to discover if there were other children laboring under whooping-cough in the house in which she lived, but there were none. In this case, then, contagion was decidedly the cause of the whooping-cough.

Still we are not justified in considering contagion the principal source of the disease, as some, especially Dr. Lombard, have done. The propagation of the disorder requires, in fact, a particular constitution of the atmosphere, and a special temperament. We cannot tell how long it retains its contagious character, nor at which period it is safe to allow communication between infected and uninfected individuals; we should therefore be particular to isolate a child who labors under it until the cough is entirely gone.

The symptoms of whooping-cough have been divided generally into two or three stages. French authors usually speak of a period of invasion, a period of increase, and a period of decline; some English writers mention the inflammatory, congestive, and nervous stages; and others again the catarrhal and spasmodic conditions, which is perhaps the more natural division, since the period of decline is simply the resolution of the disease. Even this division, however, is not faultless, for in some cases the hoop and the *kink*, as it is called, are present at the very beginning; while in others the simple coryza or bronchitis to which the convulsive cough succeeds, continues for such a long time that it can hardly be considered a precursory symptom; and in other cases again after the hoop has disappeared, and the symptoms seem to be slight, some trifling circumstance will reproduce the complaint in all its former intensity.

The first or catarrhal stage presents the phenomena of a simple coryza and slight bronchitis. The child appears to have caught cold. There is a cough, either dry or accompanied by increased bronchial secretion, and occasional sensations of heat and chilliness alternately; or else some fever, with a disposition to the tertian or quartan type. The little patient loses his appetite, and suffers with constipation of the bowels. He also sneezes frequently, his sleep is agitated, he is capricious and restless. His eyes are somewhat injected and watery, his eyelids have a dusky color, his face is swollen, and expresses sadness and depression. The cough distresses him more than anything else—it sometimes returns with extreme frequency, even as often as forty or fifty times in a minute, and may continue several days with this incredible repetition. This, however, is not common; it usually cannot be distinguished from the short cough of incipient bronchitis.

During this stage, then, we discover nothing but the usual symptoms of catarrh, and it is consequently impossible to diagnose whooping-cough at its beginning. No blame can attach to us if we even suspect the invasion of measles, or of other eruptive fevers, and we are very liable to commit this error during the first two or three days of the disease. The average duration of this stage is variable, depending somewhat upon the age of the subject. Dr. West, in fifty-five cases, in which the occurrence of the first hoop was ascertained, found it to be 12.7 days; in 1804, in Berlin, it lasted from eight to fifteen days; and in 1838, at Geneva, its length was from one month to six weeks. In an epidemic among infants from the time of birth to the termination of the first year observed by M. Trousseau, it was very short, as in two of fifteen infants it was absent altogether, and in ten of the thirteen others it only existed from one to seven hours. We may, however, estimate its general duration from twelve to fifteen days, and if the symptoms just enumerated appear in a child exposed to circumstances capable of producing this disease, we may be at least allowed to surmise its nature.

The passage from the first to the second stage is rarely abrupt, generally gradual. There is sometimes an intermediate period in which the cough is short, rapid, and repeated eight or ten times in succession without the appearance of the hoop. It lasts for some ten days, and then the pathognomonic paroxysm and crowing inspiration take its place.

When the disease is fully established, these peculiar symptoms are observed. The child is perhaps calm and tranquil, but suddenly and without any cause it seems to have a presentiment of the coming seizure; it becomes sullen, irritable, or anxious, the eye, the face, and the gestures expressing a certain degree of alarm; the movements of inspiration and expiration grow hurried, disturbed, and irregular, and perhaps the infant begins to cry. In most cases these premonitory phenomena are very short, but in some they last for several minutes. If the child be lying down, it quickly assumes the sitting posture; if it be standing it runs a little way to seize firmly some article of furniture, or to cling to the dress of the person nearest to it. Then begins a dry cough, convulsive in its nature, and characterized by a series of sharp jerking expirations, continuing so long that suffocation appears imminent: at the end of a variable time, there is heard a profound sonorous, loud, whooping inspiration, which is followed by the expectoration of a quantity of stringy mucus, or by vomiting. During this paroxysm or kink the face is swollen, and of a red or bluish color; the eyes are filled with tears; the capillaries are injected, the veins of the neck are distended, and the arteries pulsate violently. Blood, sometimes, in a violent attack, flows from the nose and mouth, or even from the ears: it is sometimes extravasated beneath the conjunctiva or into the cellular tissue of the eyelids. Bouchut mentions that he has seen bloody tears, and other authors mention both hæmoptysis and hæmatemesis as coming on during or immediately after the paroxysm. The first hoop rarely terminates the attack. It is succeeded, perhaps, by a little rest, but the cough shortly reappears with renewed energy, and is cut short by another hoop, and so on for a succession of these kinks. The length and intensity of the paroxysms are in proportion to their number, as are likewise the injection of the countenance, the anxiety, and the jactitation.

In some children, one single expiratory cough is immediately followed by a hoop followed by another cough and another hoop. Barthez and Rilliet have counted fifteen or twenty such expirations and inspirations in a paroxysm from one-half to three-quarters of a minute in length. In very young infants, during the first year, the hoop is less prolonged and sonorous than in patients of a greater age, but the symptoms of asphyxia are more threatening and pronounced. During the attacks the limbs of the child are contracted; its body, and the neck, shoulders, and the head, are covered with a cold clammy perspiration; there are, as I have said, vomitings, and sometimes involuntary evacuations of urine and feces; sometimes prolapsus of the rectum; sometimes the formation or reappearance of herniæ. The pulse is small and weak, and the convulsive condition of the organs of respiration may even expand into general convulsions.

After the end of the paroxysm the child appears exhausted, and requires some time to recover itself. The eyes are still injected and watery, the neck and face are swollen, and the latter has an expression of fatigue; the respiration and the pulse are accelerated: the skin is warm, and the limbs are trembling. Some children immediately begin to cry. However, these phenomena do not endure for a very long period; the child lies down and rests for a while, and then returns to its usual occupations. There is no fever, and no loss of appetite in ordinary cases, but it retains its usual interest in its games and amusements, or applies itself with undiminished vigor to the breast of its nurse. If, however, the attacks of coughing are very severe and follow each other very quickly it seems pallid, languid, and depressed.

The length of the intervals and the duration of the paroxysms are very variable; it is impossible, as regards this point, to establish any general rules. At first, and when the disease is severe, the kinks come on frequently—some authors say every five or ten minutes, some every half-hour, and some from twenty to seventy-two times in the twenty-four hours. They increase in frequency, how-

ever, during the first two or three weeks of the disease, or until its twenty-ninth or thirty-eighth day. Their usual duration is from one to five minutes, and a succession of them has been observed to last even as long as a quarter of an hour. They may be either regular or irregular in their return; and may appear to supervene spontaneously. A full meal may bring them on, or a fit of anger, or crying, or fright, or laughter. So, also, may a change of position, rapid deglutition, the impression of cold, the inspiration of too dry an atmosphere, or of one charged with strong perfumes, or with smoke, or likewise violent exercise, or the accumulation of mucus in the bronchi, especially if the secretion be profuse. It is remarkable, also, that sympathy will have the same effect, for if several children laboring under whooping-cough be brought together and one of them commences coughing, the others will join in chorus; "so that, says M. Bouchut, "several times in fact, it has been impossible for me to remain in the ward of these little children, so distressing to the ear was the noise which accompanied their efforts of coughing."

## Original Communications.

### TWO CASES OF INTUSSUSCEPTION OF THE SMALL INTESTINES, IN CHILDREN.

By J. LEWIS SMITH, M.D.,

LECTURER IN THE UNIV. MED. COL., PHYSICIAN TO THE ORPHANS' HOME AND ASYLUM.

**CASE I.**—This case occurred in the practice of Dr. Macfarlan, of this city, but was visited by me, in consultation, at his request. The history of the patient was as follows:—Its health had been uniformly good, and nothing unusual was observed in its condition, till the age of four and a half months, when it became restless as if in almost constant pain, with occasional exacerbations. Castor oil was prescribed, which operated freely, and then the following mixture. *R.* Magnes. calcinat. ʒj.; tinct. opii camphor. 3 ij.; tinct. assafet. 3 ss.; aq. anisi ʒj.—*M.* Dose, ten to twenty drops, repeated according to the pain. These remedies failed to give relief, as did also chloroform, given in doses of two drops. After two or three days, another set of symptoms arose, those characteristic of pneumonia, namely, hurried respiration, accelerated pulse, short suppressed cough, and expiratory moan. He was treated with the oiled-silk jacket, moderate counter-irritation, and expectorant mixture containing carbonate of ammonia, and in a few days the pulmonary disease was evidently subsiding, but the pain in the abdomen, more intense at intervals, continued. His countenance was pallid and bore an expression of suffering. There was no distension or tenderness of the abdomen, and no abdominal tumor. He took little nutriment, and seldom vomited. In the last part of his sickness the dejections were scanty, and the three last days the stools, instead of being feculent, consisted of mucus and a little blood. Finally, the pain seemed to be growing less, when he was seized with convulsions, and died the same day, precisely two weeks from the commencement of his sickness.

**Sect. Cadav.**—Head not examined; body slightly emaciated; mucous membrane of trachea and bronchial tubes vascular; posterior portion of the lower lobe of each lung, solid, of a greater specific gravity than water, and not susceptible of inflation; it was in the second stage of pneumonia. Stomach, duodenum, jejunum healthy. In the upper part of the ilium was an intussusception, two-thirds of an inch long, presenting no trace of inflammation, either within or around it, and its vascularity not notably increased. Above the intussusception the intestine was empty; below it, and chiefly in the small intestine, was a dark-colored substance; evidently blood, and giving in a few hours the offensive odor of decaying animal matter. There was a

passage through the intussusception, at least two or three lines in diameter, as shown by a probe. The intussusception sustained sixteen inches of the intestine, with its contents, without being drawn out, and it would apparently have sustained considerably more. The remaining organs were healthy.

**CASE II.**—Male, died at the age of nineteen months, the last eleven of which he was under observation. The mother states that he had never been well since the age of one month, and that there had been little variation in the symptoms of his disease. During the period in which he was under observation, he was ordinarily fretful, and frequently seemed to be in considerable pain. His stomach, through this whole time, was so irritable that he rarely took more than three or four spoonfuls of nutriment without vomiting. There was, usually, more or less diarrhoea, but no tenderness or distension of abdomen. He grew slowly, but gradually, more emaciated, and finally died in a state of extreme emaciation and exhaustion. He had no convulsions, and was conscious till the last.

**Sect. Cadav.**—Brain not examined; lungs healthy, except a circumscribed portion, which was inflamed, at the summit of the right lung; liver small, and almost destitute of oily matter, as shown by the microscope. In the jejunum, about two feet below the stomach, was an intussusception, two inches long, the intestine forming which seemed to have undergone no structural change. Above the intussusception the intestine was of small calibre, and entirely empty, and pale; below the intussusception the intestine was somewhat larger than above, but it seemed quite healthy. The invagination was sufficiently pervious to allow water to pass through it, and it readily sustained the weight of two feet of intestine. From eight to ten inches below this intussusception there was another, which was immediately drawn out, the moment the intestine was disturbed. The other abdominal viscera were healthy.

**Remarks.**—Cases like the above are rare, or at least have been rarely observed. M. Rilliet—and of the standard writers on diseases of children, no one has given more attention to the subject of intussusception—states that this disease, almost always in the young child, is seated in the large intestine, whereas in older children it is sometimes in the larger and sometimes in the small. "\*\*\*\* Et occupe presque toujours le gros intestin, dans la première enfance; tantôt cet organe, tantôt l'intestine grêle, dans la seconde enfance." In a statistical paper on intussusception in children, published by myself in the Amer. Jour. of Med. Sci., Jan., 1862, there are brief records of fifty cases, and in all those in which post-mortem examinations were made, the disease was seated in the large intestine. But we see from the above cases, that intussusception, persistent and irreducible, occurred in the small intestine in one child of four and a half, and in another of nineteen months.

In each patient, the intussusception was so firm as to sustain considerable weight, and yet there was no appearance of inflammation within or around the mass, and none, or but slight, of congestion. In the first case blood had escaped, in considerable quantity, from the incarcerated intestine. Whether there had been in this patient, towards the close of life, strangulation producing congestion, which was relieved by rupture of the capillaries, in the same way that meningeal apoplexy relieves congestion of the membranes of the brain, in the infant, or whether the capillaries were ruptured by attrition of the mucous surfaces, from the forcible peristaltic and vermicular movements, is doubtful. There was no appearance at the autopsy, in either case, of strangulation, for there was no accumulation or distension, above the seat of the disease, and the invaginated mass was pervious. It is evident, however, that perviousness after death does not show that there was perviousness previously, since at death the tonicity of the muscular fibres of the intestine is lost. On the whole, it seems probable, from both the symptoms and post-mortem appearances, that while in the second case there was no strangulation, in the first strangulation was present in the last

three, and perhaps five or six days of its life. This, as regards the first case, is the opinion of Dr. Macfarlan, who saw the child daily from the beginning of his sickness, and examined its symptoms carefully.

Intussusception, in the infant, is usually accompanied by more or less tenesmus. Its absence in the above cases, was, no doubt, due to the fact, that the disease was seated in the small, instead of the large intestines. In place of tenesmus, there was in one case pain more or less constant, and with exacerbations; in the other, fretfulness.

The time at which invagination occurred in the second case, is doubtful. There were symptoms of disease, or derangement of the bowels, during the greater part of the child's life, and no new symptoms arose, to indicate the commencement of intussusception. Could the intussusception have been present for months? Its relation to the derangement of the bowels is uncertain. In my statistical paper, allusion is made to the statement of some Continental observers, that this disease in the child, after continuing for an unusually long time, may gradually subside, and health be restored, without sloughing of the affected part. Bouchut says: "Amongst other children, the disease lasts a much longer time, but the vomitings gradually cease, the intestinal hæmorrhage disappears, the strength returns, and the health becomes restored again, without the expulsion of fragments of the intestine. M. Killert, who points out this possibility of the cure of intestinal invagination, observes, that it always takes place in this manner." (*Diseases of Children*, trans. by Bird, page 493.) As reduction of an intussusception is ordinarily followed by immediate, and not gradual recovery, it seems as if these observers alluded to a favorable termination, in which neither reduction nor sloughing occurs. This was to me inexplicable. Of the fifty cases contained in my paper, and which were collected from Continental and British, as well as American Journals, there is none which terminated in this way. The majority of these patients died, and the few who recovered, owed their safety to the separation and expulsion of the invaginated mass. The above cases, however, may throw light on this point. Although both died, the intussusception, which we have seen was similar in the two, was of such a character, that it did not seem to render death inevitable, even if there were neither reduction nor sloughing. Possibly the more favorable cases of this form of intussusception may recover in a "gradual" way, whatever may be the anatomical alteration which the affected part finally undergoes.

174 W. 49th st.

## BROMINE IN HOSPITAL GANGRENE.

By R. L. STANFORD, M.D.,

SURGEON U.S.V.

JOHN HUBER, a private of Stone's 1st Kentucky Battery, entered Hospital No. 12, Louisville, Ky., Jan. 8th, 1863, from Hospital No. 7, Perryville, Ky. He received a gunshot wound in the thigh at the battle of Chaplin Hills; amputation at the junction of the lower with the middle third of the femur was performed four days afterwards.

When he entered this hospital the stump was doing well. On one side, from the outer angle formed by the flaps up to and over the centre of the bone, had been repaired perfectly, and the skin renewed over the whole surface. Healthy granulations were seen filling up the wound on the inner side. The reparative process continued from this time up to March 18th, when a small spot, about the size of a ten cent piece, was discovered to be of a dark purple color, occupying the angle of the flaps on the inner side of the thigh, the purple hue extending above and beyond the edges of the wound for a distance of about one inch. A small, dirty colored, pulpy mass was also seen within the wound. From this dirty-looking pulp was also discovered a sero-purulent fluid of a slightly greenish color, which exuded from the parts below and around. From the

wound was emitted an odor, pungent and exceedingly offensive. The skin of the limb, face, and body had changed its color since last examination, having acquired an ill-defined dusky hue. In a word, hospital gangrene had shown itself. The tongue was moist and covered with a dirty whitish fur; cheeks a little flushed. Bowels costive. Pulse 80, weak and feeble. No appetite. Urine highly colored. Countenance anxious. Intellect clear. March 19.—Pulse 100 beats to the minute. Breath emits a saccharine odor, tongue coated with whitish brown fur. Intellect clear. Skin exhibits a dirty yellowish hue, more marked than yesterday, and a few degrees above the normal temperature. Cheeks flushed. Bowels costive. Urine highly colored. Wound emits an offensive odor which can be smelt in any part of the ward. The diffident pulpy mass of a much darker color than yesterday. A sero-purulent fluid still flowing from the wound. Not having been able to procure pure bromine, I ordered the wound to be properly cleaned of all detached substances, as well as that those which were still adherent be trimmed with scissors down to the sound tissues, after which to apply compound solution of bromine and the parts to be covered with a yeast poultice. Ten drops of muriated tincture of iron were given every six hours. Whiskey, one oz. every four hours. Diet, soft boiled eggs, tea, and bread. On the 20th, symptoms were same, except that the slough had enlarged.

22d.—Pulse increased in frequency. Ulcerative process spreading. I directed the wound to be again thoroughly explored, and the adherent portions of the slough trimmed close to the sound tissues. After which the compound tincture of bromine was again applied, as on the previous days.

On the 24th, a few bright red spots were discoverable in the wound. Treatment consisted of whiskey, quinia, and the daily application of the compound bromine.

On the 25th the wound did not show any further disposition to spread, and lost in a measure the offensive odor. There was, however, not much improvement at bottom of sloughing process. The solution of bromine was injected with an hypodermic syringe into the cellular tissue beyond the sloughing process. The internal treatment was of course continued.

27th.—Pulse 108; tongue commencing to clean from edges to centre; appetite somewhat improved. The dark gangrenous spots in wound have nearly disappeared. Locally, bromine and cinchona poultices as before. 28th.—Wound improving; all the dark or rather black spots have disappeared; there was still emitted an offensive odor. Patient complains of aching pains in and around the wound. Continual bromine solution to wound. 30th.—Wound painful, but improving in appearance.

I have given the treatment of the case for twelve days during which the gangrene gradually spread, destroying the soft parts around the bone and above the end, for a distance of fully three inches, leaving to this extent the femur exposed. From the 30th March up to the 15th April, the case exhibited about the same variation of symptoms from day to day. During the whole of the remaining time up to the 15th April, the wound emitted daily the same offensive and peculiar odor.

The skin increased its dirty yellowish hue up to the 6th April, and remained without material change till the disease was fully arrested. The constitutional symptoms commenced with the first appearance of the gangrene, and persisted until the gangrenous process was entirely arrested. The urine was voided during the continuance of the disease in sufficient quantity, but at all times highly colored. The bowels inclined to costiveness, but were easily moved, continuing to act for several days after a cathartic had operated, and then again became costive, requiring at intervals a mild cathartic throughout the whole time the disease continued. His appetite failed him at the first appearance of the gangrene, and continued with slight improvement, when the wound emitted less offensive odor, and falling

back into the same state when the wound assumed a more unfavorable condition. Except these variations, it continued without improvement during the whole time of the continuance of the gangrene.

Upon the 15th of April I procured *pure* bromine, and immediately had the wound properly cleansed, and applied the remedy to every part of the ulcer, taking steps to be certain that the sound tissues beyond the diseased parts were reached in every part of the wound. The parts were then dressed with a cinchona poultice.

16th. Pulse 96, tongue coated and moist, intellect clear. Countenance bright, bowels regular, urine in sufficient quantity, but still highly colored. The whole surface of the wound almost as black as charcoal. The odor has entirely disappeared from both the wound and breath. Appetite has returned. He now craves meat for the first time since gangrene made its appearance. He says the wound feels sore, but in every other respect feels like a new man. The wound was dressed as before with a cinchona poultice. Discontinued bromine.

17th. Pulse 80, tongue cleaning, mind cheerful. Says he had a fine night's rest. Urine still highly colored. Wound looks better, the black incrustation separating slightly from the sound parts around the edges. Odor all gone, both from the wound and breath. He has a good appetite, and says he now feels like getting well.

From this time he gradually gained strength, and the wound steadily improved. All treatment was discontinued upon the 17th April, except simple dressing. The state of the case was, however, recorded daily until the 22d, when it was thought unnecessary to reduce anything more touching it to writing.

This case exhibits in a marked degree the genuine character of gangrene, and goes a great part of the way towards establishing the important fact that, contrary to the generally received opinion, it is a local and not a constitutional disease. The character and genuine nature of every disease which has not yet been fully established, can only be settled by that sort of experiment which makes everything touching the case a subject of investigation. It is not enough, therefore, to apply bromine to a gangrenous wound, and to see that it destroys the virus, but the exact strength of the remedy should be known, the condition of the ulcerated parts, the mode of application, the way in which the wound was prepared for the reception of the remedy, and all the local, as well as constitutional symptoms, should be perceived and noted at the time of making the application, together with every circumstance that could possibly have a bearing upon the case.

Proceeding in this way, we may not only increase our own stock of knowledge, but may be able to establish facts which will benefit mankind generally.

From my own observation in the treatment of hospital gangrene, erysipelas, and diphtheria, I am entirely satisfied that all of them are local diseases, and may be cured by the use of bromine properly applied. The foregoing case establishes, as far as any single case can do, the efficacy of pure bromine over the compound solution, the latter having been applied daily for the term of twenty-seven days without arresting the gangrenous process, while the pure bromine arrested it upon the first application. The wound was prepared for the reception of the remedy in the same way, and with no more pains than had been taken upon each application of the solution. The constitutional symptoms subsided within twenty-four hours after the pure bromine had been applied; the gangrenous odor disappeared entirely within the first six hours after the application of the pure remedy. Within twenty-four hours the appetite returned, and has continued good ever since. The skin gradually gave up its dirty yellowish hue; the urine also gradually returned to the normal color; the pulse dropped down to eighty, and has maintained that number of beats per minute from the second day after the application of the pure remedy up to the present time.

The patient is now able to walk about the ward, and

would do so if he had two legs. The wound has been filled with granulations, and is being skinned over, there only remaining a small portion upon which the skin has not been renewed, and this immediately around the bone.

If this was the only case I had treated with this remarkable agent, I could not speak in as strong terms as I am now about to do; but I have treated a number of cases that were equally as grave as this one, and with complete success in every instance; and numerous cases in other hospitals have been met, where a like success crowned its proper application. I can say to the profession with unbounded confidence, that we have in bromine an agent that will, when properly applied to gangrenous ulcerations, cure them in every instance with more certainty than quinine cures intermittent fever. Not only will it meet antagonistically the virus which sets up this disease, and destroy it in the wound, but if vapor of bromine be kept in the ward in sufficient amount to be perceptible to the smell, it will prevent the spread of the disease to others, and, more than this, it will cure all the cognates of gangrene arising from like virus. We have, then, in bromine, when properly used, a remedy which will cure many of the most formidable diseases which affect the human family. If what I have stated be true with regard to this great remedy—and I assert that it is, and, moreover, that no one will ever be able to prove to the contrary, if he will but apply the remedy as I will indicate before I close this article—I invite all who have cases under their charge in the Military Hospitals throughout the U.S. to apply at once and without delay this sovereign remedy in the treatment of hospital gangrene, diphtheria, scarlatina, erysipelas, and probably small-pox, as well as in the treatment of poisoning from the bites of insects and serpents. As these diseases are all set up by the application of a virus, and the virus which produces each has an animal origin, I have nothing to lose by asserting that bromine will meet and neutralize the poison which gives rise to each of them. I might go further, and state that there are other formidable diseases which have an animal virus as the cause of their origin in the human system, and which may be met and cured with this remedy; but I will not at present speak of them or of the mode of applying the remedy. I look upon the use of bromine, in the treatment of the diseases which I have specified, as being fully able to strip them of their heretofore formidable character, and they may now be placed in the category of such diseases as can be as easily managed and cured as scabies.

To Surgeon M. Goldsmith, of the city of Louisville, Ky., belongs the credit of this treatment. Although he has not, as far as I am informed, treated many cases himself with the remedy, yet he conceived its powers over the class of diseases which I have specified, and recommended its use in the military hospitals in and around this city. The surgeons commenced experiments with this remedy last winter, and the results have equalled the most sanguine anticipations of not only Surgeon M. Goldsmith, but, as far as I know, have met the expectations of all who have used it, since his recommendation, in the military hospitals of this place. So confident are all who have used the remedy that they can not only cure hospital gangrene with it, but that they can also prevent its spreading, that no one here ever separates patients having gangrene from other wounded patients in the same ward. I hope, however, that no one will, without giving this remedy a fair trial, presume so much against the just praise which I have bestowed upon it as to pass along the line of the old routine practice, thinking, as is too often the case, that the praise bestowed upon it is idle. I am fully aware that I have used strong language, yet I feel confident that, when the profession comes to apply this remedy in the treatment of diseases as I have done, I have nothing to lose by the use of a single word which presents the facts in its favor.

As to the proper use and application of bromine in the cure of gangrene, I will make the following statements:—The pure bromine should always be used in the treatment of



gangrenous sloughing in preference to any solution which can be made. The wound should be properly prepared for its application, and then the remedy should be properly applied. Every part of the pulpy mass, and detached debris, should be removed from the wound, as far as possible, without injuring sound portions of tissue in the wound. To this end the undetached pulp should be dissected away with forceps and scissors. The wound should then be thoroughly washed with warm water, after which it should be dried with a sponge, and then with the rounded end of a spatula scrape away any remaining portions of the lifeless tissues which may be still adherent, yet capable of being removed without too much injury to the adjacent sound parts. This done, wash and dry the wound as before directed, and then apply pure bromine to every part of the diseased surfaces, taking special care not to be deceived as to the certainty of having reached with the remedy every gangrenous point, some of which may lie beyond the common surfaces, the virus having travelled out of sight in and along the cellular tissue. To make the application certain, and beyond the possibility of deception, a small round end of a glass test-tube should be used, or some other instrument answering the same purpose, with which the bromine should be pushed into the cellular texture, and thoroughly stirred in every part of the wound. If these directions be strictly followed, it will rarely be necessary to make more than one application of pure bromine. The second application should not be made within the four first days after the first application. If the odor peculiar to the disease is entirely removed by the first, the second application should not be made; but if at the end of the fourth day there is any remaining odor, the surface which was charred by the remedy may be removed, and it will then be easy to discover what points in the wound have not been reached by the former application: these alone should be touched with the remedy. After the patients have received an application of the remedy, the gangrenous surface may be covered with a yeast or cinchona poultice, or, if the surgeon chooses, he may dress it with lint or simple cerate.

## Reports of Hospitals.

U.S. GENERAL HOSPITAL, ANNAPOLIS, MD.  
COMPOUND GUNSHOT FRACTURE OF THE FEMUR,  
TREATED WITH SMITH'S ANTERIOR SPLINT.

By R. B. MILES,  
ACTING ASSISTANT SURGEON U.S.A.  
(Continued from page 14.)

In the treatment of fractures of the extremities, the general indication is to furnish mechanical support that shall supersede the office of the injured bone in maintaining the form and length of the limb, until union shall have taken place. The apparatus which I am about to describe is applicable to all fractures of the thigh and leg. I shall describe its employment in the treatment of fractures of the thigh. The splint now in use is made of wire, and is constructed of one piece of wire bent twice at right angles upon itself at the extremity, being three inches wide at its upper, and two and three-fourths at its lower extremity. It should be long enough to extend three inches above the anterior spinous process of the ilium, and three or four inches beyond the toes. This would make it three feet and ten inches for an adult. Support is given by cross pieces clenched upon themselves. The splint is then to be bent, the lower angle to correspond to the foot, which is from  $120^{\circ}$  to  $125^{\circ}$ . The angle at the knee is very obtuse, about  $160^{\circ}$  to  $165^{\circ}$ . The angle at the hip should be of the same degree. It will often be necessary, to vary these angles to suit particular fractures. The angles are easily made by bending the splint over the margin of a chair.

The splint is now to be wrapped with a bandage, and is ready for application. The suspensory apparatus consists

of a small iron pulley, which is to be fastened to the ceiling over the patient's bed, nearly the middle of the tibia. A cord about half the thickness of your finger is to be passed over the pulley, and through a small tent block, by which you are able to elevate or depress the limb. This cord has a loop attached to its end about two feet above the limb. Through this another cord about five feet long passes, and hangs double from the loop; each end has a claw or hook attached, which is made of wire the width of the splint; the points sharpened and turned inwards to embrace the wire splint through the bandage, which prevents them from slipping. In the application of this splint the limb is carefully adjusted, and supported by the hands of an assistant. The splint is now to be laid along the anterior aspect of the limb, placing compresses underneath at the hip and instep. Five pieces of bandage, long enough to embrace the limb and splint; one under the foot, one around the ankle, the third beneath the knee, the fourth above the knee, and fifth around the thigh; all these strips are to be fastened on the top of the splint with pins, and now the hooks are to be applied. In fracture of the middle of the thigh, the upper hook is to be placed over the seat of fracture, and the other above the middle of the tibia. The limb is now raised from the bed, so as to allow the free application of the roller, which, commencing at the foot (care being taken not to press the limb up against the splint), is carried up along the leg and the thigh; on reaching the hip a few turns are to be made obliquely through the groin and around the pelvis. In regard to suppurating wounds, an independent bandage is to be applied. Next in order is the application of extension and counter-extension (this, although simple, seems to be the great objection with many of the surgeons). This is made by moving the head of the bed backwards, so as to give obliquity to the suspending cord. Counter-extension is made by the body; and to obviate the descent of the body towards the foot of the bed, a brick or block may be placed under the foot of the bedstead. The limb should be raised high enough to lift the limb clear of the bed.

What have we accomplished?

1st. The limb rests on the turns of the bandage, and cannot change its position even when the body moves, for it is carried with it.

2d. As above stated the splint is secured to the pelvis, and the limb moves with the trunk, which always retains the same position to it.

3d. Should the body be moved to the right or to the left, this will not change the relations of the upper and lower fragments.

4th. Regard to the deformity, the regular pressure of a well adapted bandage, assisted by the obliquity of the cord, which has a tendency to straighten the limb and resist all deformity.

5th. The artificial construction of extension will be seen by the obliquity of the cord, which is changed to suit each particular case, and which renders it unnecessary to be tightening and loosening the bandage from day to day.

6th. Should the body have a tendency to descend towards the foot of the bed, the limb swings upon the cords, and the fragments are prevented from being jammed upon each other.

This splint is adapted to all fractures of the femur, and to none is it more appropriate, and in none has it accomplished more satisfactory results, than in gunshot fractures caused in the present war.

It has been the opinion of our most eminent surgeons to reject all mechanical means in the treatment of fractures of the neck. Now, if we can furnish any comfortable support to the limb, allowing the leg and trunk liberty, should it not be employed even for that? In treatment of the cervix, that portion of the splint which extends beyond the groin (or pelvic portion) is very important, and should extend well upon the trunk, and should be well secured to the trunk by the bandages. The extending apparatus is also im-

portant, and the obliquity of the cord should be well watched. The great advantage which this splint possesses over other apparatus is, that it raises the injured thigh from the mattress, permitting a free circulation of air, and preventing the accumulation of pus, and whatever dressing is used from excoriating the skin, and thus affording an easy and convenient access to the wounds, also enabling us to clean the patient's person; lastly, it gives the patient the greatest amount of comfort, giving him the privilege of changing his position *ad libitum*.

This splint was the invention of Prof. N. R. Smith, of Baltimore City, Md.

## FOREIGN CORRESPONDENCE.

### LETTER XL.

By PROF. CHARLES A. LEE.

ROME.

Nov. 26, 1862.

It was with no little interest and curiosity that I entered upon a systematic examination of the hospitals of Rome, believing, as I do, that the ability, zeal, and success with which such institutions are managed, mark, with very accurate certainty, the degree of civilization, if not Christianity of a people. I had visited, with equal pleasure and surprise, the magnificent hospitals of Venice, Padua, Verona, Bologna, Florence, Pisa, Leghorn, Naples, etc., so far exceeding my expectations in everything connected with efficiency and successful management; and I have not been disappointed in my expectation of finding the hospitals of Rome creditable to this seat of the Fine Arts, and the centre of the Catholic world. Accompanied by Dr. O'Flynn, Surgeon to the late Irish Battalion in the Papal service, and now in attendance on the Papal military hospital, I have successively visited all the Roman hospitals, and will speak of them briefly in the order of visitation, or, at least, the most important of them.

We first visited the great hospital of *San Spirito*. This stands on the right bank of the Tiber, near St. Peter's. It is said to have been founded by a Saxon king, who, having abdicated his throne and become a Christian, took up his residence in Rome in 728, and here founded a hospital for the relief of his countrymen. It was, however, greatly enlarged at the end of the twelfth century by Innocent III., and has gone on increasing so as now to form almost a small town within itself, being very richly endowed; not only possessing large landed property in the city, but also much of the territory between Rome and Civita Vecchia. This Pope confided it to the *Brothers of the Order of San Spirito*, from which it derived its name. Successive Popes have done much to enlarge and enrich it. Benedict XIV., e.g., in 1751, added a museum and anatomical theatre; the museum was increased with very choice specimens by Pius VI.; still Pius VII. added dissecting-rooms, baths, and many other requisites. The most important repairs, however, in its management and administration, as the Romans think, have been made by the present pope, Pius IX., in the appointment of twenty Capuchin priests to its spiritual assistance, and the erection of a house for them within the inclosure, so that some of them might be in constant attendance on the patients both day and night. The entire establishment consists of a male and female hospital, entirely distinct; divided, as usual, into medical and surgical wards, clinical wards for each sex, with a lecture and operating-room adjacent; a military hospital for the Papal troops, a foundling hospital, and a lunatic asylum. There is space for about 2500 beds in the civil hospital, though ordinarily there are only about 650 medical and surgical cases in the wards. There are, besides, 450 lunatics. 15,000 patients are annually admitted; the mortality averaging about eight per cent., or even less. During the summer months the wards are filled with cases of intermittent and remittent fever from the Campagna, as well as large numbers from the city; in the winter season the number is

greatly reduced. The small amount of mortality is attributed to the great proportion of malarious diseases admitted, which are usually promptly cured by large doses of quinine. I counted about twenty beds in the clinical ward, some of them unoccupied. There is a tolerable pathological museum in the hospital, as well as a collection of instruments, and a library, most of which were bequeathed to the institution by the eminent physician, Lancisi. The *Foundling Hospital* in San Spirito is capable of containing upwards of 3000 children; the number annually received is somewhat less than 1000. Statistics, in Rome, I believe, are only published once in five or ten years, and the last report I have seen gives 2941 deaths out of 5382 children received in a period of five years, showing a mortality of 57 per cent. A large proportion of the foundlings are sent into the country to be nursed, where the mortality is far greater than in the city. The recent mortality, it is said, is much less. I may remark that there are several other foundling hospitals in Rome, so that the number of foundlings is over 3000 annually; and they offer such facilities for admission that children are brought here from all parts of the Papal States, especially Sabina, Frosinone, Velletri, and the Camarca, and even from Southern Italy.

The *Military Hospital* on the opposite side of the street to the main buildings has only been in operation during the last year, the military patients having formerly been mixed with the civil cases. It consists of one immense ward, several hundred feet in length by forty-five in width, and perhaps equal height, allowing of two rows of beds on each side. Its general management is under the direction of the minister of war, M. Merode. The improvements recently made indicate that in a short time it will not suffer by comparison with any hospitals of the kind elsewhere. In the civil hospital there is one ward exclusively for wounds, casualties, and fractures, of which *cuts and stabs*, I was informed, constituted the largest proportion. There were three tiers of beds on each side of the wards, yet such was their immense size and lofty ceilings that I perceived no hospital smell in any part of the building. Although there were canopies for curtains, I saw none in use. I was happy to notice that the windows, which were opposite, and perhaps thirty feet from the floor, were kept constantly open, and a free current of fresh air continually supplied. The only things which strike one's attention as somewhat incompatible with our notions of comfort, are, the cold brick floors, without any covering whatever, and the absence of all means of warming, unless it be one or two small stoves. The Italians, however, it must be considered, have no idea of comfort in our sense of the word, and they rarely have fires in the winter even in their own houses. Besides, the winter climate here is mild, the temperature being seldom below 50° F. The hospital beds were very clean and neat, the bedsteads of iron, as they are in all the Roman hospitals, and the sacking stuffed with wool. The floors were clean; the nursing kind, assiduous, and intelligent. The military patients were served by twelve Sisters of Charity, the only nurses of the order in attendance on any of the Roman hospitals, although there are about forty in all in the city, the others being engaged, I believe, as private nurses. The sisters of this order have never been very numerous in Rome, as considerable jealousy exists towards them on the part of the other orders.

It has been ascertained that of the foundlings of Rome two-thirds, at least, are illegitimate, the remaining being the offspring of poor or heartless parents, who, from various motives or causes, adopt this mode of getting rid of them. In many instances, where the family is too needy to support all the children, one or more are stealthily committed to the wheel of the Foundling Hospital of San Spirito, with some mark on its dress by which it may be registered and afterwards identified and claimed. In many instances the poor mother is too delicate to furnish sufficient nourishment for the child, and too poor to provide a nurse for it, and it is sent accordingly to the asylum; and so it fares



with the rickety, malformed, or diseased infants that do not seem, and really are not worth raising; and this is one cause of the great mortality. This facility of providing for offspring renders infanticide so rare that it is rarely or never heard of in Italy; and although it may have some tendency to promote illicit indulgences and sexual vice, it cannot be denied that it does away with all temptation to destroy offspring. In London and all the large towns of Great Britain infanticide is of daily occurrence, if we are to believe the statements of the English papers, and yet in point of morality they cannot compare with Rome and other large Italian cities, judging from all one can see or hear. I have been much in the street at night, but I have never yet seen a *street-walker* or a female who would even be suspected of prostitution. Whatever objections may be urged against foundling hospitals, I cannot but believe, from what I have observed here and elsewhere, that when under the protection of the state, and managed by a body of religious women, as they are here, whose lives are wholly devoted to its duties, and acting from high Christian motives, they are of the greatest utility and necessity. There are rarely more than fifty or sixty children at one time in this institution, as they are generally sent into the country soon after they are received. The Italian, perhaps I should say continental custom of swathing, strapping, and bandaging, prevails here to its fullest extent; and it is difficult to understand how any of these little animated mummies ever survive the treatment. The institution furnishes an excellent opportunity of seeing cases of congenital or transmitted diseases; of these, scrofula and syphilis are the most frequent; *ophthalmia neonatorum* is also quite common, and not a few lose their sight entirely. I doubt whether sufficient care is always taken to prevent the communication of this malady, although neatness, cleanliness, and good order appeared to prevail in every part of the establishment. The register shows great care in noting down every particular in regard to the reception of the child, as the day of the month, the hour of the day, its name and parentage, if any be given, and, in addition, a crucial incision is made on the top of the right foot, and a black dye introduced, which remains indelible. The clothes are minutely examined to see if there be any mark, ribbon, coin, or medal, by which the child may be afterwards identified, and if there is, it is carefully preserved, and a record made of it. If there is no evidence that the child has been baptized, it is taken to the church at once, and the rite there administered. There are three large rooms occupied as nurseries, each containing about fifty beds for the nurses, each bed having a cradle on each side of it. One of the rooms is used exclusively as an infirmary. There is no difficulty in finding plenty of nurses, as there are certain days of the week appointed for applications to be made; all applicants being obliged to bring certificates from their parish priests and deputies as to character, age, health, capability, and means, and also, which is no less important, in regard to the birth and death of their own children. The chief reason assigned for the latter is, that otherwise women might send their own children to the asylum, and afterwards apply and support them at the expense of the institution. On receiving an infant the nurse is presented with sufficient clothing, marked with the sign of the cross, and is paid at the rate of one dollar a month for fourteen months; after that time nursing *a pane*, as it is called, commences, and is continued till the age of twelve for boys and of ten for girls; for the first six months at the rate of sixty cents a month, and after that forty till the time expires. It is said that the nurses have a stronger affection for the boys than for the girls, and take better care of them in hope of adopting them when they are grown, and deriving advantage from their labor. When the time is expired the boys, if not adopted, are sent to the orphanage of the city of Viterbo (*S. Maria della Providenza*), where they are maintained, clothed, educated, and instructed in some trade or art till the age of twenty-one, when they are furnished with ten dollars, and dismissed to make

their way in the world. Where a boy is bound out or adopted, obligations are required that he shall be trained and educated in the same manner and until he arrives at the same age, when he is to receive the same sum, and may remain in the family or go where he pleases. In regard to girls, they must be supported in the families where they are received till they are married or enter a convent; if married, they are to receive twenty dollars, but as there are various dowries established for illegitimate girls, a most benevolent and praiseworthy provision, they may receive a hundred dollars or more, which is no small fortune in Italy. After the girls are weaned, they are returned to the institution, as a general rule, where they form a large establishment of several hundred, and where they are carefully trained and educated; and if they marry, each one receives a hundred dollars. Many kinds of feminine work are carried on in the institution, such as sewing, knitting, embroidery, etc.; the manufacture of wool and hemp was introduced, indeed, at a very early period in its history. One cannot walk through the departments of the adult female foundlings without a feeling of satisfaction and real pleasure, for they are models of neatness and good order, while the occupants are cheerful, industrious, and tidy. In one apartment we see them pursuing their studies, in another their work, in another still, they are receiving religious instruction from some of the nuns. Thus are these poor abandoned children nursed, watched over, trained, educated, and provided with a dowry; in short, everything done that is possible to compensate for a parent's care and affection, and even to efface the ignominy of an ignoble birth. The whole system is only Christianity in action, and does honor to the church which originated and carries it on. Indeed, it is due to truth and justice to say that the Catholic church has, from the earliest ages, paid much attention to the protection and education of exposed or abandoned children, whatever their origin or parentage. It was even made a subject of earnest discussion in various Councils as far back as the fourth century, or even earlier. The tenderness and compassion of Christian affection were substituted in the place of pagan cruelty, neglect, and remorselessness, and we find Constantine, the first Christian emperor, devising measures to assist those who, from poverty or other causes, could not support their children. One motive which evidently influenced him was to prevent infanticide, a very common crime at that period, and one that we find to have been generally practised, not only throughout Greece, but every part of the then known world. Early records show, moreover, that it was common in the early history of Greece and Rome, and was not regarded as a criminal act. It was an archbishop of Milan, in the year 995, who opened the first asylum for foundlings, and that in his own house. Not only this: he left all his wealth for its support, directing in his will that the children should be maintained till the age of nine, and then taught a trade. Pope Innocent III., also, in the twelfth century, collected all abandoned children, whatever their parentage of origin, and opened an asylum for them in a department of a building which he had prepared as a hospital for the sick; and in 1638 St. Vincent de Paul, who is justly regarded as a saint by the Catholic church, opened a similar institution in Paris; and it was not till the following century that London followed the example.

P. S.—This is the rainy season in Rome; the weather, though mild, is not favorable to invalids, it being wet, damp, and chilly. There are many strangers here laboring under or threatened with pulmonary disease; but the crowded state of the Protestant burying-ground and the early ages of most of the deceased, show that this climate is no panacea, and that many, at least, of those who come here for health find it only a final resting-place.

THALLIUM.—The largest ingot yet produced of this new metal was lately exhibited at the Royal Institution, London. Its weight was 5,943 grains.

# American Medical Times.

SATURDAY, JULY 18, 1863.

## LIFE-SAVING IN WAR.

BATTLES more sanguinary than the series of terrible conflicts that had preceded during the two years of war have just been fought near the head-waters of the Potomac. From thirty to forty thousand veteran soldiers were numbered among the killed and wounded. Nearly two hundred thousand men were pitted in hostile array, and three hundred cannons thundered the murderous voice of battle. The national army triumphs, and though it proudly adds the enemy's hecatombs to its own wounded, the Surgeon-General unhesitatingly assures the public that his Medical Directors have "plenty of surgical aid."

Before Vicksburg, and the Gibraltar of the Mississippi, other armies, corresponding in magnitude to the army of the Potomac, have successfully undertaken the serious task of siege operations; while upon the Tennessee, and at various points in the South, the loyal troops are vigilantly pressing forward. Skirmishes, sharpshooting, hideous shells, explosive mines, trench work, with unceasing vigil and labor, yet fail to overcrowd the field-hospitals or overburden the medical staff.

The present condition of the national forces, vast as the numbers are, is demonstrating the sanitary advantages of great activity in armies. An unusually good state of health prevails among all our forces. And now have come the notable occasions when the surgeon's skill is appreciated above all rank and military titles; for the prowess of that skill is readily and gratefully acknowledged amid the battle scenes where death is braved, and surgery's boldest acts are with equal fortitude demanded by heroic men. Truly has it been said that "Chirurgery triumphs in armies and in sieges—'tis there its empire is owned, 'tis there its effects express its eulogium." But let us not mistake what constitute the highest triumphs of surgical art.

For the sake of humanity, and for the honor of our profession, we hope that the passion for "high surgery" and capital operations, for vainglorious purposes, has no chance for indulgence upon the recent great battle-fields. The wounded heroes of battle, and the people in whose behalf the war is waged, will bestow honor and gratitude upon those surgeons who best succeed in *saving life*. Already has the simple record of many a humble military and hospital surgeon made him the unconscious subject of honorable mention in official and professional circles, and the object of the fervent gratitude and prayers of those who have experienced or learned of his faithfulness and skill in saving the lives and the limbs of his patients. The successful and conservative surgeon, whose judicious and humane appreciation of the methods, time, conditions, and place of necessary operations, is fully equalled and scrupulously accompanied by most faithful attention to all the hygienic conditions and appliances that influence and determine the results of wounds and surgical operations, is now the surgeon most honored. At Cedar Mountain, and during the disastrous battles that were arrested at Chantilly last year,

was seen an efficient and modest young medical officer absorbed in the duty of providing for the proper nourishment and hygienic care of the wounded as they fell and were gathered to the ambulances and field-hospitals. To that duty he had been assigned in a certain *corps d'armée*, and with marvellous success did he succeed in supplying much-needed nourishment and stimuli to the thousands of wounded men who were being brought in and moved forwards from day to day. His charge related wholly to the principal hygienic wants of the wounded as they were temporarily gathered by the ambulances, and moved forwards by railway. A few weeks subsequently, in a sheltered oak-opening upon the Antietam, in a field-hospital, with only tents for the covering of his patients, the same unpretending surgeon was found wholly absorbed in charge of a small division hospital filled with severest wounds, which presented such results alike of good surgery and perfect hygienic care as we never witnessed in civil hospitals. The excellence of his administration and his surgical skill soon brought official orders for placing a thousand patients under his care; and unconscious of the honor he was winning, that surgeon gave his whole attention to the work of life-saving by the only sure means of complete hygienic care following wisely elected operations or avoidance of operations. His was a model field-hospital, and the almost unparalleled success of his surgery taught lessons that no surgeon who visited his "hospital in the grove," felt unwilling or too old to learn. The number of precious lives saved by that humble officer's intelligent comprehension and faithful execution of his peculiar duties during the two brief campaigns of last autumn, will cover him with truer glory than that of storming a series of batteries; and we adduce this instance of professional faithfulness simply to illustrate our subject in reference to a particular field.

It is as honorable to our profession as it is creditable to humanity, that the head of the Medical Bureau, and the Chief Directors of the Staff, are giving great attention to measures for insuring the best results of operative surgery, and the greatest effect to conservative means for diminishing the amount of capital operations. Life-saving by hygienic means, as well as by wisely elected operative measures, is producing results in the field, as well as the general hospitals of the army, such as will command the attention and respect of the medical world. The unfortunate presence of a few renegades and charlatans in our regimental service will not be allowed to greatly modify the general results, for such unworthy officers are readily kept *sub jugum* by their superiors. Yet we have seen enough of bad work in the care of the wounded after the great battles, to lead us to implore again all our medical officers to double their diligence in the hygienic and conservative measures that are so essential to life-saving in the field-hospital and the surgical ward.

But great as the fields, and vast as the opportunities are for the redemption of life and of limbs from the carnage of battles, where

" . . . For want of timely aid  
Thousands die of medicable wounds,"

there is another and far greater field in which much life has been cruelly wasted during the progress of the present war, a field in which, indeed, more lives have been sacrificed than upon all the battle-fields. And this murderous Aceldama is far away from the seat of war and

its exposures and life risks. It is at home—in our recruiting offices, our barracks, quarters, and encampments for enlisted men in the States, and at the various military depots.

In three successive years three immense armies of volunteer soldiers have been called into the national service. Unaccustomed to camp and military duty, fresh from the avocations of common life with all its comforts and luxuries, upwards of a million citizen soldiers from the loyal States have already passed through severe campaigns and many sanguinary contests. And now another grand army is about to enter into the terrible struggle. Three hundred thousand strong, this freshly marshalled host is to be added to the veterans in the field, and be thrown upon the rebel forces at the South.

The new army, like the soldiers who have preceded it, will represent the homes and hearts of the people, and the hope of the nation; and, in even larger measure, will it represent the intelligence, virtue, and wealth of the land. In the name of the people, and on behalf of the homes, the affectionate hearts, and the priceless interests of the nation, which the army thus truly represents, its strong arms and devoted souls not only ask to be so led as to confront successfully the rebel forces, but to be so treated and so managed in camp, in drill, in discipline, and upon the march, that the precious lives of those volunteers shall not be wasted, nor the martial strength of the forces fail when the days of trial come.

Already in the progress of the war the number of soldiers discharged from service upon the surgeon's certificate amounts to considerably more than one hundred thousand, while the average constant percentage sick in hospitals from other causes than wounds, in all our armies, is probably about *seven per cent.* of the entire force. What proportion of the invalid discharges from service, or of the hospital population, has thus far been comprised of the classes of enlisted men who either were primarily unfit for military service, or who from the insanitary management of recruits were broken down previous to active service, we trust will be faithfully shown by the statistical bureau of the Sanitary Commission, and the Medical Department of the Army. It may safely be estimated that fully *sixty per cent.* of the invaliding and sickness has been due to those readily removable causes; while of the deaths from disease it will be found that a still larger percentage of the total number has been due to that class of evils to which we now allude. One of the Sanitary Commissioners ascertained upon personal inspection and inquiry, that of nine thousand select and rapidly enlisted troops that last arrived at the New York rendezvous from New England, about *thirty-three per cent.* were placed upon the sick list within a few weeks after entering the barracks in the vicinity of this city, and that upon their departure to the seat of war, nearly *thirty per cent.* of the original force was left behind as invalids. This corresponds with the statement made by the colonel of one of the best regiments that was ever quartered at this rendezvous, who, after seven weeks' residence here, deliberately replied that during that brief period the military strength and value of his regiment had been *permanently* diminished *thirty per cent.* upon the force it actually possessed the day it entered the stifling quarters provided for his men in this city.

A visit to the old barracks at East New York, at Camp

Washington, or Camp Curtin, will convince any intelligent physician that a residence of full corps of recruits for a few weeks in those quarters must be a more terrible ordeal to life than any exposures our armies have yet suffered upon battle-fields. And we believe we do not exaggerate when we assert the opinion that nearly one-third of all the effective force of the army, as hitherto enlisted, is needlessly wasted and lost before the freshly recruited regiments have reached the seat of war.

This is an evil that may and should be arrested immediately. The responsibility rests upon the Governor and Military Staff of each State, as well as upon the mustering officers and quartermasters of the U.S. Army concerned in the care of the new levies at the military depots. Let the united influence of medical men in all the States be directed to the reform that is so much needed in the early management and care of the grand army that is now being levied, for without such volunteered effort on our part the reform will not be effected. Let us appeal to the Surgeons-General in the States, to the Quartermasters, to Governors, and all the responsible authorities. Our brothers, neighbors, and friends, and not a small percentage of our own profession, are to constitute this last grand army; and against the wholesale slaughter, and the slow poisoning of such a host of patriotic men, as they will be rapidly gathered at each military rendezvous, let us solemnly protest, while we do all in our power to enlighten and aid the proper authorities in the work of *life-saving* by improvements in encamping-grounds, the ventilation and enlargement of barracks, the ventilation of tents, the care of camp cuisine, etc. And in this work we must look to the Medical Bureau and to the Sanitary Commission of the army for their effective aid. We know that the Sanitary Commission has been continually appealing to the War Department to remedy the very evils we have here mentioned. Its appeals, with its intelligent statements and plans, must now be enforced by the united influence of the entire profession; for life-saving and patriotic service for our country are the paramount duties of every physician.

#### THE WEEK.

THE sanguinary battle of Gettysburg illustrates again most painfully the importance of a large reserve force of surgeons and assistants on a battle-field which our forces immediately relinquish to pursue the enemy. The army is amply provided with surgeons, if they were allowed to remain and care for their wounded. But in this and many other instances the army has at once moved, and the surgeons are obliged to follow their commands. Under these circumstances the immense number of wounded are necessarily left without succor or surgical aid. Hundreds were unattended at Gettysburg for days. It seems important to devise some system by which this deplorable neglect of the wounded may be obviated. We have before suggested the selection, by the SURGEON-GENERAL, of a sufficient number of competent surgeons in civil life, each provided with a proper number of assistants, who shall visit the field while the battle is in progress, and remain until the wounded are thoroughly provided for. If such a corps of surgeons were selected and properly commissioned, a great evil would at once be remedied.

THE circular of the SURGEON-GENERAL, published in this

Journal for July 4th, asking information in regard to the use and abuse of calomel and tartar emetic, was intended exclusively for circulation among army surgeons. We learn that the returns thus far made show a striking preponderance of opinion against the general use of these remedies in the army. The value to be attached to these opinions is very great, and conclusive on the subject. We shall look with interest to their future collection.

## Correspondence.

### SARRACENIA PURPUREA IN SMALL-POX.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—Something like a year ago I saw an article in the *Tribune* in regard to the use of the *Sarracenia purpurea* in variola. I made a minute of it in my note-book, with a view of giving it a trial at the first opportunity. That opportunity has occurred, and I have tried it, with what success the following case will show.

Monday, May 18th, 1863, was called to see W. C., a young man twenty-three years of age, strong and vigorous constitution. Found him with all the premonitory symptoms of variola; the lumbar pains being particularly prominent. He had been exposed to that disease eight or ten days before. Does not remember ever having been vaccinated.

Tuesday, 19th.—Fever higher, and pain more severe; eruption beginning to appear. I gave him the usual treatment, but without going over all the details of the case, suffice to say that on Saturday 23d there was a copious eruption of pustules about the size of small split peas diffused over the whole body, particularly on the hands and face. The latter was so swollen as almost to close the eyes; the eruption being so thick even at this stage as to look like one great pustule. More or less delirium during the night, and the severe lumbar pains undiminished. It now occurred to me to give the *sarracenia* a trial; as it was growing in abundance in a marsh near the house I sent out and procured some of the roots, and directed the nurse to give a teacup two-thirds full of the decoction every four hours.

Sunday night, 24th.—Saw him again. Had been delirious the night before, but now calm; pulse slow, skin cool, and many of the pustules shrivelling. From this time the disease never advanced, but all the pustules dried up without maturing. There was no pitting. "One swallow does not make a summer," and I would not pretend to claim from this one case that the *sarracenia* is a specific in this loathsome disease. Let other physicians give it a trial, and report the result. Should further trial prove it successful in cutting short the disease it would confer a blessing on the human family equal to the discovery of Dr. Jenner.

Yours, etc.,

SAMUEL MITCHELL, M.D.

CAMERON MILLS, June 23, 1863.

### HOSPITALS FOR OPERATIONS.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—I see that in the *TIMES* for May 16th a "Surg. Vols." takes great exceptions to my remark: "In our General Hospitals, as at present arranged, the Medical Staff is too small to be in condition, as to time (to say nothing of skill, etc.) to perform all the operations that should be performed." In a communication in the *TIMES* of April 18th, in respect of the necessity for "Hospitals for Operations," he says:—"The sweeping charge of incompetency, as applied to the Army Medical Corps, is not only unprofessional and ungenerous, but it is unjust; yes, more, it is false." This "sweeping charge," he thinks, if I do not wholly disregard truth, and will refer to the Army Regis-

ter," I "will withdraw." As I made and intended to make no such "charge," I have nothing to "withdraw." I wrote from the Department of the Tennessee (near, or below, Memphis), but the printer located me at St. Louis, Mo. I referred to comparatively local matters—"Surg. Vols." considers that I make a sweeping charge of incompetency against the whole "Army Medical Corps."

In November last, Surgeon H. R. Wirtz, U.S.A., Medical Director of this Department, thought it necessary to appoint a Board of Medical Officers to examine physicians serving either in hospitals, or with troops in the field, to test their competency. "Physicians under contract will be duly notified when to appear before the Board." Every "Physician under contract" in the Department, composing in large part the Medical Staff of our General Hospitals, was to be examined, and such commissioned Medical Officers as were reported by their Division Surgeons. The Board did not act, as the Assistant Surgeon-General did not approve of the idea. I still maintain the opinion that our Army Medical Corps will be more efficient when "Hospitals for Operations" are a part of the system.

I have always felt and professed a high respect for the Medical Corps, U.S.A. and U.S.V. Incompetent men are to be found in both classes.

P \* \* \* \*

Department of the Tennessee.

### ANATOMICAL DEVELOPMENTS OF PARTS LIABLE TO OBSCURE THE DIAGNOSIS OF OBLIQUE INGUINAL HERNIA (By order of the SURGEON-GENERAL).

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—It might be of interest to the profession, and especially to military surgeons, and of practical use, to call attention to an anatomical development of parts liable to obscure the diagnosis of oblique inguinal hernia. The following case is a good illustration of it.

PENSION OFFICE, November 18, 1862.

SIR:—J. D. has been ordered to report to you for examination as to his degree of disability, and present physical condition. You are also requested to learn from him the history of his disease.

Respectfully yours,

(Signed) JOS. H. BARRETT,  
Commissioner.

DR. R. S. SATTERLEE,  
Grand St., New York.

ARMY MEDICAL PURVEYOR'S OFFICE,  
466 BROOME ST., NEW YORK,  
NOVEMBER 21, 1862.

HON. JOSEPH H. BARRETT,  
Commissioner of Pensions.

SIR:—J. D. presented himself to-day and was examined. His history of his alleged injury is as follows:—In November, 1861, when on drill, he felt pain for the first time in his groin, and on examining he found a tumor there. The tumor or "rupture," as he supposes it to be, he says is on the right side only.

The present examination reveals an apparent tumor, of equal extent, on each side. These tumors or enlargements have a conoidal shape, and extend from the neighborhood of the anterior superior spinous process of each ilium to the spines of the pubes, the apex downwards. From a superficial examination the conclusion might be that he has a double inguinal hernia. But when he coughs the protuberances seem largely inflated, the bands of fibres of the abdominal muscles are distinctly marked, and though the apparent tumors descend to the external abdominal rings, the fingers when placed in the rings are not sensible of a hernia, and when the coughing ceases the protuberances return to their former condition, or disappear.

The conclusions are that the man has not hernia, that

the appearance of it is due to unusual anatomical developments, and that the malformation is congenital.

His physical condition otherwise is good.

Very respectfully,

Your obt. servant,

R. S. SATTERLEE,  
Surgeon U.S.A.

This is one of several cases that have presented themselves at the Medical Purveyor's Office, for examination for certificates of disability for pension.

The anatomical deviation is an unusual thinness of the aponeurosis of the external oblique and the fascia superficialis and superincumbent integuments, or undue development of the fibres of the internal oblique that arise from the anterior part of the crest and anterior superior spinous processes of the ilium, and from Poupart's ligaments. It occurs on one side or on both.

Yours, etc.,

L. F. HAMMOND,  
Surgeon U.S.A.

## TRANSPORTATION OF COMPOUND FRACTURES OF LEG AND THIGH.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—The question often arises as to the best method for the transportation of cases of compound and comminuted fractures of leg and thigh.

The plan I have recommended and adopted with entire success is to place compresses made of straw, hay, leaves, husks, or even sand-bags, between the legs and thighs. After drawing the broken limb down to its normal length, apply the compresses, and fasten it to the well one, by means of a bandage cast lightly about them both—thereby making a splint of the sound limb. In this manner these patients can be removed for miles in ambulances, and changed or handled with less injury, discomfort, or inconvenience than with any other dressing with which I am familiar. The only care requisite is to see that the subsequent swelling from inflammation or infiltration does not destroy the vitality of the parts; cold water and the reapplication of the dressings will obviate this danger.

Yours, &c.,

JOHN SWINBURN, M.D.

ALBANY, N. Y., June 30, 1868.

## Medical News.

### COMMENCEMENT OF THE LONG ISLAND COLLEGE HOSPITAL.

—This young and vigorous medical school closed its fourth session on Thursday, the 2d of July. The number of matriculants during this term was fifty, representing fourteen different States, and the number of graduates was sixteen. The President, THEODORE L. MASON, M.D., briefly addressed the audience, reviewing the past history of the College, and alluding to its future prospects. Although the class was diminished in 1862, as was the case in all medical colleges, yet during the present term it had increased to near its maximum size. He concluded by explaining the nature of the diploma about to be conferred, and the moral and legal obligations which it conferred. The Hippocratic oath was administered by Dr. MITCHELL, when the President conferred the degree of M.D. upon the following gentlemen:—Alfred W. Merrill, New York; Albert Crane, Louisiana; John G. Kalback, Pennsylvania; Henry W. Good, Pennsylvania; James McMillan, New York; A. Jackson Sanders, Pennsylvania; Robert Newman, New York; Gorham E. Sargent, Massachusetts; Adam B. Dunder, Pennsylvania; E. R. Moody, Kentucky; George

F. Burton, Delaware; Alexander J. C. Skene, Scotland; W. J. K. Kline, Pennsylvania; Benjamin R. Taylor, New Jersey; John A. Webster, Iowa; Philip McNab, Indiana. The honorary degree of M.D. was conferred upon Darwin G. Eaton of the Packer Institute.

Professor Austin Flint, M.D., made the address to the graduating class. He welcomed them on behalf of the Council and Faculty, to the practice of medicine and surgery. He reminded them that there was a broad field before them in the army and in private practice. He spoke hopefully of the prospects of the College, and remarked that although the four years of its existence have been filled with troubles incident to the political condition of the country, the state of its health is beyond question—it is no longer a weakly bantling, but a healthy and vigorous body. He proceeded at considerable length to point out to the class the useful discoveries of Hunter and Jenner, and bade them emulate these men in adding to science something to benefit the human family, and immortalize themselves.

The valedictory address on the part of the graduating class was by ALFRED W. MERRILL, of New York. The speaker took the most elevated view of the dignity of his profession, and in truthful and eloquent terms urged his associates to aspire to an honorable distinction.

Hon. Samuel Sloan (President of the Board of Trustees) in a feeling manner declared his intention to retire from the presidency of the College. This he regretted very much, but his removal to New York rendered it necessary. He reminded his Brooklyn friends that they did not properly appreciate the benefits conferred by the Long Island College Hospital. It had sent surgeons to the army, and its graduates honored them in every walk of life; yet it owed a debt of \$25,000. To liquidate this debt he would willingly subscribe a thousand, or, if necessary, two thousand dollars. He trusted others would come forward and relieve the institution of its debt.

At the conclusion of the services the students and faculty were elegantly entertained at the residence of Dr. HENRY.

OPERATIONS FOR HARD CATARACT—RESULTS OF EXTRACTION AND OF DEPRESSION OR RECLINATION.—There are four compilations of statistics relative to the results of operations upon hard cataract. Their conclusions do not exactly correspond, although they do not vary very widely. By adding them together their errors may balance, and the result be a close approximation to the truth.

### OPERATIONS FOR CATARACT.

	By Ex- traction.	Failures	Ratio.	By Re- clination	Failures	Ratio.
Frederick Jaeger.	798	83	1 in 92	199	21	1 in 6
Edward Jaeger.	114	7	1 in 16	81	12	1 in 7
Art.	540	41	1 in 13	83	14	1 in 6
Elvand-Landran.	2078	201	1 in 10	177	50	1 in 3½
Total.	3455	283	1 in 13	469	97	1 in 5

Stated in another form, the number of failures after extraction of hard cataract is eight per cent., while of reclination or couching the number of failures is twenty-one per cent. By failures are meant cases where sight was totally lost. After extraction the pupil may be closed, and, for the time, sight not be restored: an iridectomy may afterwards impart vision. Such cases are not counted failures. In reclination the immediate result may be successful, while after a few months chronic choroiditis or retinitis may be set up by the presence of the lens in the vitreous humor, and eventuate in softening and atrophy of the globe. The failures in reclination may be more or less remote, those of extraction follow immediately. The successes of reclination are liable to a disastrous issue years after the operation: the successes of extraction are permanent.—H. D. N.

## Original Lectures.

### DISEASES OF THE RESPIRATORY ORGANS IN CHILDREN.

BEING A COURSE OF LECTURES PREPARED FOR DELIVERY DURING THE SPRING  
SESSION OF 1883 IN THE COLLEGE OF PHYSICIANS AND SURGEONS, N. Y.

BY THE LATE

C. VAN ALLEN ANDERSON, M.D.,

PHYSICIAN TO CHILDREN'S DEPARTMENT, DEMILT DISPENSARY, N. Y.

#### LECTURE IV.—PART II.

##### PERTUSSIS—ITS COMPLICATIONS.

MANY of the complications of pertussis have their seat in the lungs, so that it is a necessity to us, in treating a case of this disease, to be well acquainted with the condition of our patient's chest. If we auscultate during the first, or catarrhal stage, we shall discover the mucous or sibilant rhonchi which are the exponents of a slight bronchitis; on percussion, also, we shall find the thorax clear and sonorous. There is no slight difficulty in applying the ear to the chest during the paroxysmal cough of the second stage of whooping-cough, but if we succeed in our efforts, we shall recognise the vibrations given to the trunk, and, in the intermissions between the expulsive shocks of the cough, a partial sonorous râle, or a roughened respiratory murmur. The hoop is produced in the larynx, and at the moment it occurs the air does not pass beyond the larger division of the bronchi, so that during its continuance the vesicular murmur will be absent. It is therefore of prime importance to auscultate the chest of the little patient at a period of time sufficiently removed from the termination of the paroxysm, when we shall hear the usual puerile respiration of children, mixed with some dry or moist sounds of the larger air tubes. Let me remind you, also, that you should neither count the pulse nor practise auscultation just before a paroxysm, for then you will remember that there is a considerable disturbance both of the respiration and circulation.

Dr. Roe explains the cough and the hoop in the following manner:—"Any one who will make the experiment will perceive that, by the exercise of the voluntary muscles of respiration, he cannot either continue coughing loudly for so long a time, or empty the lungs so completely of air, as a person does in the paroxysms of whooping-cough; it must therefore be inferred that the involuntary muscles . . . . . connecting the extremities of the cartilaginous rings of the trachea and bronchi, powerfully assist in accomplishing both these objects. They seem, by acting spasmodically, to expel the air from the lungs, and to excite by sympathy the voluntary muscles of inspiration; the combined action of both sets of muscles appears to produce this peculiar cough. The hoop takes place in the larynx and trachea, and appears to be caused by a rush of air through a contracted passage, for no sudden or violent inspiration could produce this sound in the natural, healthy state of the air tubes. The lungs are so completely emptied of air by long-continued expirations, that a most distressing sense of suffocation is produced, to relieve which a full inspiration is instinctively made, and at the same moment the rima glottidis is contracted, and the air passing quickly through a very narrow opening causes the hoop."

If we make three stages of the disease, we may consider this paroxysmal condition as existing from fifteen or twenty days to one month, and then comes the period of decline. Before this commences, the cough has been much more severe at night than during the daytime; but now we begin to observe a diminution of the nocturnal exacerbations, which is one of the earliest signs of the subsidence of the disorder. The fits of coughing grow less in frequency and intensity; they now occur but four or five times during the day, and rarely at night: they

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possess a catarrhal tone, lose by little and little their convulsive disposition, and are no longer accompanied by hoop. The inspirations become easy and tranquil; the vomitings cease, and are replaced by the expectoration of a thick, greenish mucus.

Sometimes the kinks and hoops are reproduced by trifling causes, such as fright, severe pain, anger, etc., and this proclivity may be seen for several months after the child appears to have entirely recovered. The duration of the third stage presents great differences: in a simple case of pertussis it is usually short, ten or fifteen days; but where the disease is complicated, it may be some weeks or months.

During an attack of whooping-cough, if it be not associated with other diseases, the child's general health continues good, the appetite and the function of digestion are unimpaired, but it may yet be thin and pale from the constant rejection of the food by the stomach. An ephemeral fever is sometimes observed, but in the majority of cases there is complete apyrexia. The circulation may be deranged by the excitement of the cough, and the same cause may give rise to a more or less profuse sweating. Some children retain their cheerfulness throughout; in others the spirits are unequal, sometimes depressed. The disease goes through its three stages in from one to four months, the common notion being that it is six weeks coming to its height, and six weeks in going off; but any such precise computation as this is, of course, without foundation.

The progress of whooping-cough is occasionally different from the description that I have given you. The varieties are generally either in its intensity or in the return of the attacks, which sometimes assume an intermitting type; the violence of the cough, also, among very young children, may bring on fatal convulsions.

The first, or catarrhal stage, does not always disappear so quickly as I have mentioned to you; for at the commencement of an epidemic of pertussis, or towards the close of one, it is not unfrequently greatly protracted; for epidemic whooping-cough, as we have seen, is sometimes developed from epidemic catarrh, and the long continuance of this latter disease is often the first warning we have of the invasion of the former. This catarrh, also, may be accompanied by fever, dyspnoea, and many of the symptoms of severe bronchitis. In such cases the discrepancy between the constitutional disturbance and the auscultatory signs will often puzzle us, until in the progress of the disorder the peculiar phenomena of whooping-cough make their appearance. There are other eccentricities which you will notice in the course of your medical experience. One of the stages may be wanting, the first for instance, or the last, that of decline; and far more rarely you will see children who do not have the convulsive period, but suffer from violent fits of coughing without any hoop. Usually, however, you will meet with three forms of the disease:—One which is rapid in its progress, recognised by marked febrile phenomena and frequent hæmorrhages; one which presents rather symptoms of intestinal and gastric derangement, such as disorder of the bowels and repeated vomitings; and lastly, one in which the convulsive stage is developed in the highest degree.

The diagnosis of pertussis is easy in the generality of cases. It is distinguished from other disorders by the convulsive expiratory cough, and by the crowing inspiration or hoop. During the catarrhal stage we have no means of making an accurate diagnosis of the nature of the disease, though the prevalence of an epidemic, the liability of our patient to contagion, and the fact of his not having previously had pertussis, are circumstances which demand our attention. When the convulsive stage is fully established, we can in almost all cases be sure of what we have to deal with, yet we may even then confound it with a form of bronchitis accompanied by spasmodic cough, or with tuberculosis of the bronchial glands. Acute bronchitis of this kind, however, commences suddenly with the peculiar



cough, and has no preceding catarrh; the kinks are shorter, and more intense; there is no hoop, no expectoration, and no vomiting; the disease begins with fever and accelerated respiration, which increase with its progress; there are mucous, sibilant, or sub-crepitant râles at all times; the symptoms are continuous, and it may occur several times in the same individual. From tuberculosis of the bronchial glands we may distinguish it by the following symptoms of the last named complaint:—It is neither contagious nor epidemic; it has no distinct stages; the fits of convulsive cough are very short, not terminating with a hoop, expectoration, or vomiting; there are physical signs of tubercular trouble; the voice is often altered; there are hectic symptoms, and its course is chronic in its character.

The prognosis of simple whooping-cough in a child of fair constitution is favorable. The epidemics of the present day have none of the severity of those described by the older authors, and most of the danger to be apprehended is from the supervention of some complication. In rare instances in young and feeble children, the violence of the kinks may prove fatal. In autumn and winter the disease is more severe and more prolonged than it is at other seasons.

In the first stage, of course, it is impossible to form any prognosis; during the second only can it be done, and then it is imperatively our duty to remember that it is at this epoch that intercurrent diseases appear. Sometimes they commence suddenly, and without any known cause, when we have no reason whatever to suspect their existence, and in these cases the issue of the disorder is doubtful, and our opinion must be guarded accordingly.

Almost any disorder may occur during the progression of pertussis, from bronchitis to idiocy. There are, however, some which are more frequent complications than others, and as these are often met with in practice, it may perhaps be worth while to consider briefly the time at which they are remarked, their form, their advance, and their prognosis.

As might naturally be expected from the nature of the disorder, convulsive seizures frequently occur during its course, such as spasm of the glottis, and the phenomena that are known under the general designation of "convulsions." The accession of these nervous troubles may be so sudden and unannounced that you are startled by it. A child, to all appearance suffering only from severe whooping-cough, is all at once taken with a fit of convulsions, and dies of spasmodic closure of the larynx, and consequent congestion of the brain. Or else, after a particularly violent paroxysm of coughing, you observe that curious symptom which we have already noticed in spasm of the glottis, namely, a contraction of the thumbs and great toes. At first these signs are slight, but they convey to your mind the apprehension of graver trouble which is to follow. A degree of dyspnoea comes on after a while, the carpo-pedal contractions become permanent, the breathing grows hurried and irregular, the hoop disappears, the cough has a smothered sound, the surface has the lividity due to imperfect respiration, the child sinks into stupor with dilatation of the pupils and twitching of the superficial muscles, and finally expires in convulsions.

Vomiting that exists for twenty-four hours independently of the cough, of the remedies that you are employing, and not connected with obvious gastric disorder, is a symptom that should always direct your attention to the head. You will find that the child daily grows more heavy and drowsy; complains of headache, has an increase of dyspnoea before and after the fits of coughing, and has perhaps some hæmoptysis or hæmatemesis. After this condition has continued for a time, convulsions ensue, which either kill the little patient at once, or else leave him in a comatose state from which he never revives.

These convulsive seizures are more frequent in young children than in older ones; they are connected in many cases with the irritation of dentition, but are not by any means confined to that period. It is during the second stage that

they are observed, and particularly when the cough is very intense, and the child has been laboring under it for some time. Sometimes they arise during the intervals of coughing, at others during the cough itself.

Whooping-cough and measles are the two diseases of infancy and childhood which show the strongest disposition to pulmonary complications. The bronchitis and pneumonia of pertussis are unfortunately both frequent and fatal. They are met with at all ages, and in all the three stages of the disorder, though, in general, we find them in the second. When they occur during the first stage, it may be extremely difficult to make a correct diagnosis; but the catarrh which has been manifested at the commencement continues on into the second period, and is marked by a greater amount of constitutional disturbance, quick pulse, high fever, loss of appetite, and incessant cough and dyspnoea. When these symptoms come under our notice, auscultation and percussion will reveal to us the true nature of things, and enable us to decide that we need be under no anxiety, for the inflammatory complaint usually subsides in the course of a few days.

Those cases are much more serious in which, after the peculiar symptoms of the convulsive stage of pertussis have declared themselves, bronchitis or pneumonia appears. In some cases, after the ordinary catarrhal fever has subsided, a hoop has been heard accompanying the cough at intervals; when suddenly the child becomes feverish and restless, the skin grows hot, the pulse and respiration are permanently quickened, and the latter is somewhat difficult; the hoop at the same time grows louder, and the cough is aggravated and distressing, and not attended with much expectoration, whatever mucus is thrown off being streaked with blood. On applying our ear to the thorax we hear a coarse, moist râle over both lungs; on a deep inspiration smaller sounds may be made out, and percussion is resonant. As the disorder progresses the cough will become less frequent, losing both its hoop and its spasmodic character; the respiration increases in wheezing and dyspnoea; the fever continues; the pulse becomes very rapid, small, and feeble; the cheeks and lips purple, the surface cold and moist, and death speedily ensues. Dr. West remarks, that cases of this kind more rapidly terminate fatally "than any form of affection of the lungs which comes on in the course of whooping-cough." He has seen "a child die on the sixth day from the first appearance of any indication that the disease was other than a very mild attack of whooping-cough;" and says, "it will not surprise you that the fatal event should take place so speedily, if you bear in mind that after death we discover intense injection, even of the smaller bronchi, with copious effusion of pus into their cavities, or very extensive vesicular bronchitis, or both conditions together."

Instead of having bronchitis or pneumonia at this early period, they occasionally come on later, and seem to be developed out of the pertussis. In such cases the symptoms gradually increase in severity, and, though the hoop is unchanged, the cough grows more frequent, and the child's sufferings greater. His face becomes anxious, his eyes watery and injected, his respiration habitually hurried, irregular, and wheezing. At the same time there is a more or less coarse râle over both lungs. The disease is usually chronic in its advance, and may terminate either by the interference of cerebral disorder, or else may go on to recovery. Sometimes the inflammation extends by continuity of tissue into the smaller air tubes, and thence to the substance of the lungs, giving rise to pneumonia; sometimes the child dies exhausted from a fit of coughing; and sometimes after the fever has increased, and the emaciation become extreme, the little child passes away in a tranquil slumber, ceasing to live because its tender vitality is exhausted.

We do not very often witness this complication of the disorder in its third stage; it then simulates very closely pulmonary tuberculosis, and we are forced to make our diagnosis by a careful consideration of all the symptoms.

The duration of secondary bronchitis or pneumonia is variable, but depends much upon the age of the patient; in very young infants it is exceedingly short, as they quickly succumb to the attack of such powerful adversaries, and the fatal termination is hastened by the access of convulsions. From three to five years we may take a more cheerful view of this complication, although it is still a very serious one, particularly when the whooping-cough has been preceded by measles. "However," remark Barthez and Rilliet, "however grave they may be in appearance, whatever resemblance they bear to tuberculosis, it is never necessary in these cases to lose all hope. We have seen real miracles produced by change of air, in cases where everything seemed to indicate that the disease was beyond the resources of art."

There are, however, other complications of pertussis which we meet with in practice, though we are not called upon to treat them so often as those which I have just mentioned. Thus, there is a species of catarrhal diarrhoea, arising from the remarkable susceptibility of the mucous membranes in early life, which will often give you trouble, because it reduces the strength of your patient, and interferes considerably with some of the medication which you would otherwise adopt. An irritable state of the stomach you will find a source of no small annoyance, particularly when the child is incapable of retaining even the blandest fluid. It may accompany diarrhoea; or else the repeated vomiting has associated with it a constipated condition of the bowels, a red tongue, and numerous small aphthous ulcers about the lips and cheeks. When acute inflammations of any part of the alimentary canal supervene, they may be considered as not attributable to the whooping-cough: they exist at an advanced period of the disorder—in fact a few days before death—coincide with other complications, and their nature and symptoms are precisely the same as when they arise idiopathically.

In almost all instances in which the paroxysms of coughing are violent, long continued, and give rise to more or less nervous congestion, we shall find serous infusion into the cellular tissue of the eyelids, about the face, and in the hands; sometimes this disposition expands into true anasarca, and has produced death not only by the general progress of the dropsy, but also by hydrothorax. Four cases of this result of pertussis have been reported, in one of which there was hypertrophy of the liver. It is more common to find tubercles in the lungs and bronchial glands, and, indeed, we may take it as a general rule, that whooping-cough has a special proclivity towards tuberculosis; and tubercles may also be deposited in the cerebral meninges, giving rise to acute hydrocephalus.

## Original Communications.

### SCURVY IN THE NAVY.

By R. S. FARQUHARSON, M.D.,

PASSSED ASSIST. SURGEON, U.S.N.

I WOULD respectfully call the attention of the Bureau of Medicine and Surgery to the following remarks in regard to the want of some antiscorbutic article in the ration of our navy. This need is inferred from the existence of a "scorbutic taint," which, besides manifesting itself in a few rare cases in the form of decided scurvy, would seem to be the most probable cause of the general debility and anomalous affections of men, otherwise in the best possible circumstances for the enjoyment of good health.

Dr. Budd has given it as his opinion, that something short of scurvy, "that a condition, that might be correctly designated a scorbutic taint, must often occur in the lower classes in towns, but especially in prisons and asylums, towards and at the close of long winters, where succulent vegetables are scarce and expensive."

That such a condition existed on board this vessel during the months of February and March, while cruising on the south coast of Africa, was inferred from the following circumstances:—

I.—An extraordinary susceptibility to the constitutional influence of mercury, when used in its common forms and given in the ordinary doses. One patient was severely salivated by five grains of calomel, given at the onset of an acute abdominal affection, though it purged; another with secondary syphilis had his gums smartly touched by less than a grain of corrosive sublimate, a preparation which enjoys the reputation of being much less liable to salivate than the others; two more persons were ptyalized each by a dose of six grains of blue mass, given to one in the beginning of an attack of dysentery, and to the other in the course of an obstinate constipation. From that period mercury was rarely given, being deterred from its use in cases where it seemed of prime necessity, not only by this sad experience, but by the condition of the gums (spongy, tender, and inclined to bleed upon the slightest touch), and a confident belief in the existence of a general cachexia, like scurvy, in being the result of a deficiency of some elements of the vital fluids essentially necessary to their normal composition. We are aware that this unusual susceptibility of sailors to mercury has been, by good authority, ascribed to a redundancy of the chlorides in the circulating fluids, rather than to the want of any component part. But this view seems erroneous from the following considerations:—First, this excess is an assumed fact, not having been shown by any analysis; secondly, this liability to salivation shows itself only now and then, whereas it should be constant among men fed on salt provisions for a certain length of time; thirdly, the known fact that no people are more healthy than those engaged in the mining or manufacture of common salt, or in any manipulations with it; fourthly, that the chloride of sodium, when used in quantities much exceeding the demand for it as a condiment, is a most powerful restorer of the red particles of blood in cases where these are deficient (being surpassed in this respect only by the martial preparations), and in healthy persons, when so used, produces a dangerous degree of plethora or redundancy of the red globules; lastly, that the susceptibility to salivation from ordinary doses of mercury showed itself on board the Steamer Princeton, while in the Mediterranean, during the months of July and August, 1848, and being followed by an undoubted case of scurvy, was made the subject of a communication to the Bureau during the winter of 1850–51.

II.—The large size of the daily sick-list for the quarter ending April 1st, 1853, being 6.62 as an average, and 11.5 for the next quarter. This fact, when divested of one weak point (viz. the presence on board of some men of broken-down constitutions, and others even with organic and incurable diseases, the effect of some radical error in the present mode of shipping men), becomes a strong and striking one, when it is considered that nothing like an epidemic disease has prevailed on board; that the brig was then cruising on the south coast, remarkable for its fine climate, its almost uninterrupted good weather throughout the year; that no perceptible local cause of disease exists on board ship; and lastly, that upon four of H.B.M. brigs they have almost perfect good health, though they are confined for many months together to a very small extent of coast, and their men are much more exposed to the causes of disease than ours, from the greater frequency of their boat expeditions.

III. The general state of the gums among the men, soft, tender, bleeding upon any touch whatever (even such as eat the ordinary food), and retracted from the teeth, which, in many cases, would be slightly loose in their sockets. Here it may be remarked, in regard to my own person, that, having half a molar tooth extracted, the hæmorrhage was greater than I had ever seen before, and the stopping proved very troublesome and tedious.

IV. The occurrence of two cases having many symptoms analogous to those of scurvy. As some of these cases may be deemed necessary to the proper appreciation of the inference of a "scurbutic taint," the following notes, taken from the journal, are added:

At sea, March 12, 1853, admitted Willard Snow, Quartermaster, aged 50, with following symptoms: pain in the back and in the head, slight tenderness of the hams and knees, pain also in the soles of the feet, constipation, furred tongue, no appetite; took yesterday afternoon 12 grs. of the compound extract of colocynth, which has not yet acted. R. Antimon. et potas. tart., gr. i.; mag. sulph.  $\frac{3}{4}$  i.; aq. Oj.; S.  $\frac{1}{4}$  at a dose, to be repeated q. h. 2 until a purgative effect is freely produced. 13th.—Bowels freely moved; tongue clean; appetite returned; pain remains in the knees; ordered friction with a stimulating liniment. 14th.—General health good; pain now in the calves of both legs; heels very tender; no croaking nor any redness perceptible; continue friction. 15th.—Pain about the hams increased, extends also to the calves and to the extensor tendons in the joint of the ankle, these being raised up, and patient complains of a feeling of constant tension in them; heels and soles of the feet very tender and painful; pain of a burning kind, like that of chilblains, referred by the patient to the soft parts and to the surface; says also the pains are like those of scurvy, from which disease he was a sufferer on board the *Raritan* in 1846; continue friction; f.  $\frac{3}{4}$  ij. lime-juice four times a day. 16th.—Last night both feet swelled and oedematous; pain increased at night; continue treatment. 17th.—General health the same; skin natural; pulse rather feeble; tongue clean; appetite and digestion good; bowels regular; pains very severe last night, at which time both legs and feet were oedematous; pain in the hams referred to the tendons of the hamstring muscles, increased by forced extension of the limbs, they being kept in a partially flexed position as the easiest one; both heels acutely tender to the touch; a slight swelling extending down the inner side into the hollow of the foot; no heat or redness about these painful spots; two or three spots of a dusky red color on the back of the foot; one also at the back of the first joint of each great toe. Continue lime-juice and R. spts. ether. nitric. gtt. xxv. q. h. 6. 18th.—Restored better last night; no swelling of the calves now; tenderness of one heel gone, patient being able to put it to the deck and bear his weight upon it; right heel remains tender; dusky redness of the spots on the feet has almost entirely disappeared; no effect on the kidneys being perceptible from the spts. ether. nitric., stop it, and continue the lime-juice. 19th.—Worse; increased pain in the hams, legs, and feet; left heel swelled, and as hard as a stone; no heat, no redness, no throbbing; continue lime-juice. 20th.—Better; can bear his weight upon left foot without much pain; left heel much softer; pain remains in the tendons of the ham; general health good; according to patient his feet and legs perspired last night for the first time since his illness; continue lime-juice. 21st.—Better; no swelling about feet or legs; some tenderness lingers about one heel; continue treatment. 22d.—Discharged to duty, some tenderness of one heel remaining, which continued for several days longer, but gradually disappeared, the patient continuing the lime-juice. Though not mentioned in the above notes, it may be here added that several times the gums of this patient were examined and found to be in nowise altered from a normal condition, neither presenting the deep redness of scurvy nor being spongy or retracted from the teeth.

Case II.—St. Philip de Benguela, March 14, 1853. Admitted Charles Anderson, an ordinary seaman. Patient has a pale, anæmic appearance, a dull, stupid countenance, and a very heavy, sluggish manner; was on the sick-list, soon after leaving the United States, with a chancre, of which he was cured and discharged in thirty-two days; has always presented the same appearance since the time of his discharge. Was called to the patient yesterday afternoon, and found

him in the following condition, viz.:—Skin cool and moist; pulse very small and thready; hands and feet cold, and of a shrunken, bluish appearance; features sharp and contracted; dark spots under the eyes; lips and finger nails livid; respiration sighing; tongue clean, small, and pointed; slight diarrhoea of three days' standing; no shake or tremor, though otherwise the appearance of one in the cold stage of an ague, or the collapse of cholera, is presented; pain of a boring or splitting kind at the top of the head, with severe aching in the calves of his legs. Gave him two grains of quinine and ten grains of Dover's powder and upon wrapping him up in blankets the heat of the surface returned, and the patient fell into a profound sleep which lasted through the afternoon and night. 14th.—Awoke feeling quite stiff; severe pain in the calves, with the muscles of a boardlike hardness; great tension of all the tendons inserted into the feet; the exterior tendons of the toes standing up like wires as they pass under the annular ligament and along the back of the foot; great pain and tenderness in the soles of the feet, so much, indeed, that it is with great difficulty that the patient stands up. R. Sulph. of quinine, 3ss; sherry wine, Oj.; S. a wine-glassful three or four times a day; ten grains of Dover's powder at night; rub legs and feet with a liniment of ammonia and turpentine. 15th.—Very weak; has a very stupid look this morning; perspires freely; pain and hardness continue about the hams and calves; tension of the tendons about the ankle as before; tenderness of the soles of the same; gums sound and healthy; tongue clean; appetite good, though inclined to be capricious; bowels regular. Continue quinine wine, liniment, and give two pts. of lime-juice four times a day. 16th.—Same state; cannot stand, owing to the excessive tenderness of the muscles of his feet; pain across the fronts of both ankles, where there is a swelling, apparently produced by an effusion under the periosteum, as the tendons can be distinctly felt as they pass over the tumor and under the annular ligament; no swelling or redness about any of the joints; slight stiffness of the back; tongue clean and pointed; appetite good; no headache; bowels regular. Stop quinine, wine, and continue lime-juice; Dover's powders at night, and the liniment. 5 o'clock P.M.—Called to patient on account of a dusky redness over the upper part of the feet; no heat of surface anywhere; some pains in the arms, darting down to the fingers. 19th.—Just after turning out this morning the patient vomited, throwing up a small quantity of clear, glairy matter; no appetite; has the same pale, sallow countenance, with dark spots under the eyes; these have a heavy, dull appearance, and fill with tears, without any cause, when he is talking; tongue clean and moist; has lost its pointed appearance, being now flattened, and slightly indented at the edges by the teeth; gums pale and firm; mucous membrane of the fauces and of the palatine arches of a deep red color; no headache; complains very much of want of sleep; sweats profusely all the time; pulse so small as to be hardly perceptible; feels like a fine, tense thread, seems to have some hardness, an illusion produced no doubt by the extreme smallness of the artery; skin cool; pains in the shoulders and arms, with a feeling of numbness extending down into the hands; pain in hams, calves, ankles, and soles of the feet; the upper parts of the feet and of the fronts of the ankles have a dusky red color, as if exposed to cold and damp weather; an old scar upon the feet is quite livid; the extensor tendons remain in the same state of extreme tension; one calf, the seat of great pain, is swelled and hard, as if a fibrinous effusion had taken place among the muscles; pain much increased at night. Cont. lime-juice; instead of the Dover's powder, give half a grain of morphine at night, and R. Quin. sulph.  $\frac{3}{4}$  j.; pul. op. gr. iij.; M. ft. pil. No. x. S. one pill q. h. 6. 18th.—General condition the same; slight redness over the tumors in front of the ankles; has a disposition to vomit, with little or no nausea; no appetite; pulse small, rapid, and with the feeling of hardness above described. Patient inclined to hysteria; eyes fill with tears

without apparent cause; complains of a sensation of fulness or choking at the bottom of the neck, and also of a feeling of great weight or oppression about the sternum; says, he "takes so long to breathe;" indeed he does, for his respiration is slow and sighing; chest everywhere resonant upon percussion; indeed, the resonance is increased; respiratory murmur feeble, with an occasional dry rale or chirping. Cont. treatment, and give three or four wineglasses of brandy toddy per diem. 19th.—Same state as far as general condition goes; the oppression about the chest and throat, greater before breakfast, disappearing very much after that meal; rested better last night; the dusky redness has gone from every part, with the exception of the old scar; extensor tendons yet contracted; not so much hardness of the calf. Stop quinine and opium; cont. lime-juice and toddy, and R. Mist. ferr. comp., f. 3 ss., q. h. 6. 20th.—Feels better; appetite improved; some brightening up of the countenance; slept well last night; pain remains in the extensor tendons, which are yet in a contracted state; tenderness of the soles so much diminished as to allow the patient to walk about with comfort, which has not been so before today; less hardness of the calves; dark red color has returned again about the feet, more marked over the prominences, as the joints of the toes, the heels, extensor tendons, and over the tumors on the tarsus; these have diminished in size. Continue the treatment. 21st.—General condition improved; patient more lively and animated in manner and countenance; pulse improved in strength and fulness; pain, however, was so great last night as to prevent sleep altogether; supply of lime-juice exhausted; continue iron mixture and toddy, and give half a grain of morphine at night. 22d.—Improving, less pain, looks brighter, is stronger; continue treatment. 23d.—Improving; however, the pains are more troublesome, though the hardness of the calves is rapidly disappearing, as also the tumors upon the tarsus; continue treatment. 24th.—Vessel now in port. Patient stronger, but even now indisposed to any exertion whatever; general health appears perfectly good; pain remains in the hams, and about the tendons of the ankles; redness comes and goes. Continue compound iron mixture and morphine; give f. 3 ij. lime-juice four times a day, and oranges *ad libitum*. 25th and 26th.—No great change; patient gradually improving; continue treatment. 27th.—Slight pain in the various parts as before; when lying upon the left side a sharp pain shoots down the course of the ulnar nerve, going as far as the tip of the ring finger; patient improved in complexion, and has lost, in a great measure, that extreme dulness of expression which was so marked at the commencement of the attack; continue treatment. 28th.—Feels worse; says he came from the open deck a few minutes since, feeling perfectly well; has now (nine A.M.) a decided chill, skin cold and rough, pulse small and thready, face blue, features sharp and pinched, eyes filled with tears, no pain in the feet or ankles, some in the hams, little or no swelling about these parts now; complains bitterly of the lime-juice and oranges; says they are killing him; stop the lime-juice and oranges; give once a day a full dose of the compound iron mixture, and R. Quin. sulph. ʒi.; pulv. opii, gr. x.; M. ft. pil. No. x. S. one pill q. h. 6. 29th.—Feels much better; some pain about the hams yet; hardness of calves and tumor of the tarsus gone; hysteric symptoms not so prominent, but perceptible; anxious to return to duty; discharged him from the list, continuing the quinine and opium for several days; from which time nothing more in the way of complaint has been heard from the patient.

Were these cases of scurvy? It would not be well to imitate the older writers, who ascribed every anomalous affection to scorbutus, but yet the inference may be a fair one, that there was here a "scurbutic taint" at the bottom of these cases, producing the symptoms in the first, and modifying and being mixed up with those of anæmia in the second. Now this "taint" which exists with us has been banished from the British navy for more than half a

century, by what means a comparison of the respective rations of the two services will show.

The sea-ration of our navy is composed of from 30 to 40 oz. of solid nutriment per day; that of the British navy from 31 to 35½ oz. daily. (*Carpenter's Hum. Phys. Am. ed.*, 1841, p. 342).

(To be Continued.)

#### RESULT OF A SERIES OF EXPERIMENTS WITH THE HYPOPHOSPHITES IN PHTHISIS.

By FREDERIC D. LENTE, M.D.,

SURGEON TO THE WEST POINT FOUNDRY, N. Y.

In the columns of the *London Lancet* the discussion of the merits of the hypophosphites is again renewed. Dr. Cotton, of the Brompton Hospital, again details the results of a series of experiments, and again records his verdict against their efficacy in phthisis. The same may be said of the experiments of Dr. Quain, of the Brompton Hospital, and other English physicians who have experimented with this remedy. Dr. Churchill complains in the *Lancet* that the experiments were not properly conducted, although admitting that the specimen of the drug used was genuine, since it was furnished by his own chemist in Paris, M. Swann. His complaint concerning other experimenters has been that the remedy was impure, it being difficult of preparation, and very liable to decomposition after manufacture. I believe that no detailed report of a trial of the remedy has appeared in this country, although the much-vaunted "specific" has been largely used by the public for several years. I have thought that your readers might perhaps be interested in learning the results of a somewhat extended trial of the remedy by myself, and I have for some time intended to give them publicity; and have now had my attention directed to the subject again by the discussion in the *Lancet* above alluded to. Dr. Churchill's allegations concerning the hypophosphites of lime, soda, etc., were so startling that, upon the first report of his experiments, and before the remedy was obtainable in this country, I determined to give it a trial. I accordingly procured the manufacture of the hypophosphite of lime by E. N. Kent, of New York, and subsequently by Mr. Chilton. I tried these on a variety of cases of phthisis in different stages, mostly in the earlier. In the same cases, or in many of them, I tried other remedies, as iron, cod-liver oil, glycerine, etc., not in conjunction with it, but before and after. I will not lengthen this article by giving my notes of these cases, as they would present a great similarity, and be unnecessary. The effect of the salt was negative; it was given in doses of five grains three times a day. Subsequently I tried the solution of the hypophosphites, which is sold all over the country. The result was the same. Desiring to test the matter thoroughly, and being somewhat favorably impressed with Dr. Churchill's theory of the action of phosphorus in a state of feeble chemical combination on the economy, I requested my friend, Dr. Edward R. Squibb, to manufacture a pure article for my experiments. Although having no faith in the remedy himself, he was kind enough to furnish it gratuitously, and to take especial pains to have it perfectly pure; it was put up in half-ounce glass-stoppered bottles, well secured, and, for fear of decomposition, the crystals were not allowed to dry, but were bottled in a slightly moist state. He only exacted a promise that I should give the result of the experiments. As Dr. Churchill cautions particularly against an over-dose, which, he says, may produce various congestions, and even hæmorrhages from the mucous membranes, as of the nose, lungs, bowels, etc., I generally used only three grains of the salt three times a day in milk, at meals. In many cases finding, after repeated trials, no perceptible unpleasant effects, I increased the dose to five grains. But in only one instance did I ever know a patient to complain of any unpleasant consequence: this was a burning in the pit of the stomach, and

nausea; and the remedy was obliged to be given up. In a great majority of the cases no effect was produced by the remedy; in some a moderate improvement seemed to follow its use; but in most of the cases other remedies had produced better effects, or did produce better after being substituted for this. In a very few cases it seemed really to be efficacious where other remedies had failed. But in no instance did I observe those marked, prompt, and positive effects, ascribed to it by its inventor, Dr. Churchill. I should have mentioned that the salt manufactured by Dr. Squibb for me was the hypophosphite of potassa.

COLD SPRING, July 11, 1888.

## Reports of Societies.

### NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, Feb. 11, 1888.

DR. D. S. CONANT, PRESIDENT, IN THE CHAIR.

#### REMARKABLE DISPLACEMENT OF DECIDUOUS MOLAR TOOTH.

DR. POST presented an anterior deciduous molar tooth removed from the jaw of a little girl six years of age. The tooth had grown horizontally across the alveolar process, the crown looking towards the tongue, while a portion of a fang was buried in a groove in the cheek. This remarkable displacement was probably due to the fact that the permanent tooth had encroached upon the tooth in question.

DR. CONANT remarked that he had in his possession a skull in which a wisdom tooth had been growing almost directly outwards.

#### FIBRINOUS DEGENERATION OF EYE—EXTIRPATION OF EYE.

DR. NOYES presented, first, an extirpated eye, which illustrated fibrinous degeneration as the result of chronic inflammation. It was removed from a young man twenty-one years of age, who, while upon a sidewalk, was struck upon the ball of the eye by a slate which fell from the roof of a house. As a consequence inflammation of the eye took place, and becoming chronic, the deep structures became seriously involved, resulting in very extensive fibrinous degeneration.

#### OSSEOUS CHOROID.

The second specimen was an instance of osseous choroid, the result also of inflammation following a wound of the eye. Shortly after the receipt of the injury, the inflammation went through its usual course, terminating in collapse of the eyeball. The patient suffered no inconvenience for many years after, when finally the organ became tender and congested, and soon the vision of the other eye was interfered with. Dr. Noyes remarked that it was almost certain to find osseous degeneration of the choroid followed by sympathetic trouble of the opposite eye; indeed this had been the most prolific source of the sympathetic irritation referred to.

#### OPACITY OF CORNEA FROM CALCAREOUS DEPOSIT.

The third specimen consisted of an opacity removed from the cornea of a child that afternoon. The general appearances of the said opacity were such as to give rise to the suspicion that it had been occasioned by the deposit of some of the salts of lime, as the direct results of an inflammation which had previously existed.

In answer to a question from Dr. Conant, Dr. Noyes stated that the osseous deposits in the eye presented under the microscope all the essential anatomical elements of bone tissue.

#### MALIGNANT DISEASE OF LEG—AMPUTATION.

DR. JAMES R. WOOD presented a specimen of osteo-sarcoma, and remarked upon it as follows:—About six

weeks since I was requested to see a young gentleman, eighteen years of age, with an enlargement over the anterior and lateral aspect of the leg. During last September he fell upon a wagon at the country-seat of his father, and bruised his skin. Shortly after he suffered from severe pain, which continued to increase without much swelling for a month or six weeks. At this time a considerable swelling occurred over the anterior aspect of the leg, about three inches below the knee. This continued to increase, when he came to town to consult several eminent surgeons. When I saw him I found a swelling about the middle of the lower third about the size of half a sixpenny loaf of bread, extending to within an inch of the knee-joint. It was so soft at its most prominent portion that two of our most eminent surgeons were disposed to think that fluid existed at that point. I found on careful examination that the tumor presented what to me was quite characteristic of malignant disease, viz. a peculiar thrill communicated to the touch. By pressure upon the artery above the disease, the tumor could be made to decrease in size, and when the pressure was removed, it would resume its former dimensions. It went on growing rapidly, and on Monday last I amputated the thigh about its middle third, assisted by Dr. Buck, who saw the case for the first time in consultation with me that day. The specimen, as here seen, presents the usual appearance of osteo-cephaloma, or as it is sometimes styled, osteo-sarcoma, or fungous hæmatoides. That portion of the tumor which gave the deceptive sensation of fluctuation was found composed of a very soft material resembling brain-substance.

An interesting question comes up in this connexion in reference to amputation. I know that a good many surgeons in New York have been opposed to the performance of the operation, and I know that a number who opposed the amputation years ago have been converted to a different opinion, and now practise it. The same disease occurs in the antrum maxillare, and it is well known that where the diseased portion has been removed, it has reappeared upon the opposite side. I suppose that most of us who have performed this operation have had success of this kind. But I know that occasionally the same disease occurring in the extremity is arrested in its development.

I presented the last specimen of this disease to the Society about three years ago. The patient was a middle-aged man, whose limb I amputated at his house in Kingston, Ulster Co. A little more than a year after the amputation his physician, Dr. Von Hovenburgh, informed me that the patient had died of pure pneumonia, there not being a single vestige of cancerous disease found. I have two patients alive, one whose limb I amputated some ten or twelve years ago for this disease. That specimen was presented to the Society, and a microscopical examination of the tumor made by Dr. Clark, who pronounced it cancer. The leg of the other patient I amputated since. Dr. Buck has a young lady coming to his office whose leg was amputated some months since, and who is perfectly well. Dr. Mott, one of the surgeons who saw this case, gives the same experience.

I saw in consultation with Drs. Forrester, Mott, and Parker, a case of a young lady who had the disease situated above the knee. Amputation was resorted to, but the disease returned, extended to the groin, and the patient died a most horrible death from exhaustion.

When this disease occurs in the course of a limb, in my opinion it is not only good practice but it is humane to remove it by amputation. It is remarkable that under these circumstances the patients almost always do well for a time, the stump heals kindly, and if the disease returns the sufferer is made easy at least a year. Then, again, if it does return it hardly ever attacks the stump, but its most frequent seat of recurrence is in the groin, or the ganglia just above Poupart's ligament.

DR. POST agreed perfectly with Dr. Wood as to the relief afforded to patients suffering from this disease by amputation. Even if the disease did recur it was less apt



to occasion as much suffering as if it were in its original seat.

#### REMARKABLE ARREST OF CANCEROUS DISEASE BY OPERATION.

Dr. CONANT referred to a remarkable case of arrest of cancerous disease by operation which had occurred twenty years ago in the practice of Dr. Mussey. The disease first made its appearance in the thumb, and that member was amputated; recurring in the stump the hand was amputated; and continuing to return, the forearm, arm, and shoulder were successively removed; and last of all it was found necessary by Dr. Crosby, who then had charge of the case, to remove the scapula and clavicle. The disease never returned after this last operation, and the subject of this series of operations is now perfectly well. Dr. C. also referred to a case of this disease occurring in the lower end of the femur, where amputation was advised. The patient was a female, thirty years of age, and refused to have the operation performed. The result was that in time the entire foot sloughed off, together with nearly all the flesh of the leg, and the patient finally died in the greatest agony, worn out by loss of blood and bed-sores.

Dr. WOOD was very much opposed to exploring tumors which were supposed to be malignant, unless it was with a view to have amputation of the limb performed immediately afterwards. Otherwise the tissues of the tumor were apt to break down, and hasten the death of the patient.

#### DISTORTION OF LOWER EXTREMITIES FROM HYPEROSTOSIS.

Dr. POST was of the same opinion.

Dr. FINNELL presented the lower extremities of a man, twenty-seven years of age, which were the seat of very extensive hyperostosis. The deformity occasioned thereby was most extraordinary and frightful: the two tibiae were very considerably bowed from before backwards, the knee-joints were increased by irregular and ragged bony prominences to nearly three times their natural size, while the small bones of the foot were distorted by the abnormal growth to such an extent and degree as to be almost unrecognisable. The right leg was more affected than the left, and in the cavity of that knee-joint were found several pieces of detached bone. With all this distortion the patient was able to get up and down stairs without much difficulty, and follow his vocation, that of a cigar-maker, until within two days of his death. There were no abrasions of the skin over the prominent points. He was an illegitimate child, and an attempt had been made to prevent his birth. The father and mother were healthy. The disease was confined wholly to the lower extremities. Death was occasioned by intemperance.

The Society then adjourned.

### FOREIGN CORRESPONDENCE.

#### LETTER XLI.

By PROF. CHARLES A. LEE.

ROME.

Nov. 27, 1862.

I NEXT turned my steps towards the Hospital of St. James, *San Giacomo*, as it is called by the Romans. This is one of the most beautiful of the Roman hospitals, though not as large as some of the others. It dates as far back as 1339, and was founded by the executors of Cardinal Colonna, in compliance with his testamentary request. During the present century it has been much enlarged and improved by Pius VII. and Leo XII. It was founded originally for the treatment of ulcers and other loathsome diseases, but in 1515 Leo X. set it apart especially for the reception of leprosy and syphilitic affections. In 1855 the whole building was restored, or rather re-erected, by the present Pope, Pius IX., and opened for the reception chiefly of syphilitic diseases in persons of both sexes, in August, 1856. The main ward is one of the noblest halls in Rome, being 340 feet in length, and of corresponding

height and width; giving ample room for two rows of beds on each side of the centre, along which runs throughout its whole length a pavement of pure white marble, six feet in width, and of the finest quality. The windows are placed high above the floor, thirty feet or more, and access to them is furnished by a light gallery on each side. The register showed the present number of patients to be 265, 110 males and 155 females. The female ward is not so elegant or so well fitted up as that of the males, the ceiling being lower. In both two rows of beds extended on each side of the centre throughout their whole length. Many of the females were sitting up and busily engaged in knitting, sewing, etc. The institution is managed by a government commission, appointed by the Pope, and is attended by four principal physicians, aided by several assistants, one or more of whom must be in the house all the while. One ward was principally occupied by sick children; there being no hospital in Rome especially appropriated for children, they are scattered about through all the hospitals, an arrangement liable to many serious objections. The male nurses were *Brothers of the Religious Order of St. John of God* (aided sometimes by other orders), a confraternity devoted to the care and nursing of the sick. The female department was in charge of the *Sisters of Mercy*, an order devoted to the same pious vocation. There was a small clinical ward set apart for cases illustrating the lectures which are given here from time to time by professors of the University, and a similar arrangement exists in the other large Roman hospitals. All the patients are visited three times daily, morning, noon, and evening, and the utmost care bestowed on every case. The institution is designated as the Hospital of Incurables, but although formerly it may have deserved such an appellation, it does so no longer, as the former rules of admission have been greatly relaxed, and large numbers of cures are annually discharged. There is a good lecture-room and a very respectable library connected with the hospital. Patients are admitted here, as in all the Roman hospitals, irrespective of age, country, or religion, and all receive equal care and attention. This hospital was a favorite resort of the celebrated St. Philip Neri, and it is constantly visited by ladies belonging to the wealthiest and noblest families of Rome, for the purpose of using their gentle but powerful influence in consoling and reclaiming the unfortunate females whose vicious lives have driven them to seek refuge and treatment within its walls. It speaks well for the kindness and benevolence of the Pope that he occasionally makes unexpected visits to the hospitals and other public institutions of Rome, and examines personally into all the details of their management. This insures perpetual vigilance and untiring devotion to duty.

I next visited *San Giovanni di Calabita*, situated on the island of St. Bartholomew in the Tiber, and occupying the very spot where once stood the pagan temple of Esculapius, or a hospital attached to it. It sometimes is called *dei Benfratelli*, or *Fate bene, fratelli* ("Do good, brethren"), derived from the inscription on the begging-box of the friars of the order of the Spanish *San Juan de Dios de Calabita*, by whom it was founded in 1538, during the pontificate of Gregory XIII. It is under the care of the Brothers of St. John of God, an order especially instituted by its holy founder for attendance on the sick. It is devoted solely to male patients affected with acute diseases. The principal hall or ward is 200 feet in length, 40 feet in width, and of equal height, containing ninety-four beds, a majority of them occupied. The mortality is on an average about 8 per cent. Like most, if not all the Roman hospitals, it has a small but elegant chapel rising in the centre of the corridors, thus giving an opportunity to all the patients of witnessing and participating in the religious services. As to the particular treatment of the acute affections which are here received, I could gain no very definite information; I however ascertained that bleeding and leeching were often resorted to in connexion with the other well known antiphlogistic measures. I was pleased



also, to observe in this hospital a ward set apart especially for strangers and the clergy who may happen to fall sick in Rome. There is a pleasant promenade in the rear of the main building, overlooking the Tiber, where convalescent patients take their daily walks. The hospital is entirely supported by voluntary contributions, each contributor or benefactor having the privilege of sending patients, the number being proportionate to the amount of his subscription. The apothecary department was in a large, splendid room, with marble floors, frescoed ceiling, and adorned with statues and paintings, marble counters, cases with glass doors, etc., etc. In the centre of the room stood a beautifully polished granite column, surmounted by an elegant statue of the Virgin Mary.

The next hospital I visited was *San Gallicano*, in the Trastevere, for cutaneous diseases in persons of both sexes. It was founded in 1722 by Emilio Lami, a priest, as a hospital for leprosy, a disease now rarely met with in any part of Italy. It was enlarged in 1754 by Benedict XIV., but many of its improvements are owing to the pious care of the present Pope. There is ample accommodation for 250 to 300 patients, of both sexes, adults and children, but at the time of my visit the register showed but 160. There were two rows of beds on each side of the wards, and canopies, as usual, for curtains. A majority of the children were afflicted with tinea and psora in some of their forms. The service is rendered by three physicians. There is a beautifully fitted-up chapel for each sex. The average duration of treatment for cases of tinea is about one year, many being a year and a half under treatment. But their time is not wasted. The boys are placed under the care of the Mothers of St. John of God, by whom they are taught reading, writing, and arithmetic, and are thoroughly grounded in catechism and Christian doctrine, thus undergoing a course of education and a course of physic at the same time. The girls not only receive literary and religious instruction, but are also taught needlework and various useful occupations. They are under the special charge of the Sisters of Charity, who spare no pains to indoctrinate them in the principles of religion, to impart useful information, etc. Separate bath-rooms are provided for both sexes. In short, the whole establishment seems complete in all its departments, clean, and well ventilated, and reflects the highest credit on its managers. The *Santissima Trinità di Pellegrini* is the great convalescent hospital of Rome, containing full five hundred beds, and affording relief to more than 11,000 patients annually. It was founded by St. Philip Neri in 1550, and was destined for the reception of pilgrims on their visit to Rome during Jubilee and Holy Week, as well as on other occasions. Boniface VIII. instituted the Jubilee in the year 1300, and this has been the great source of pilgrimage to Rome, from that time to the present. It was intended at first to have it take place every hundred years, but the time was shortened by Clement VI., whose seat of government was at Avignon, who ordained it in the year 1350; and it was further shortened to a quarter of a century by Paul II. in 1475. To succor and relieve these pilgrims, St. Philip Neri founded the confraternity of the Holy Trinity in 1550, and, in the absence of such, for the reception of convalescent patients from other hospitals. "Paul IV. granted the confraternity a convenient building for a hospital, and Clement XII. added refectories, in which about 1000 persons can receive their meals at the same time. In Jubilee years the number of pilgrims is immense, and even in ordinary years, especially at Easter, it is considerable. To be received they must have come from a distance of at least sixty miles, and have brought with them certificates from their bishop and parish priest, that the object of their journey was to visit the holy places. Italians are entertained for one day, Ultramontanes two, Portuguese five, and so on. In the Jubilee of 1825 the number of pilgrims who received hospitality was 263,592; and the expenses of that under this head amounted to 64,644 dollars." In ordinary years, however,

only about 4,000 of these travellers are lodged in this hospital. There has been a gradual falling off during Jubilee years, for we read that in 1625 as many as 582,169 were entertained in this hospital, and in 1728, 382,140.

The wards in this establishment are of immense size, I should judge over three hundred feet in length, and corresponding proportions. Two are appropriated solely as eating-saloons for pilgrims, of whom there are several hundred every day, at meals; they are also furnished with comfortable lodging in the dormitories. There is a large church or chapel connected with the hospital. There are two large rooms connected with this hospital set apart for the bathing of the feet of the poor pilgrims on the Wednesday, Thursday, and Friday of Holy Week. The rooms are about forty by twenty-five feet, with a seat running around the walls, and beneath are niches each holding a wooden foot-tub of five or six gallons' capacity, in which the Roman nobility, and several of the cardinals and other high church dignitaries, perform the office of washing feet. The tubs are all numbered, and I noticed that there were seventy-two in each room. Ladies of the highest rank, including the Queen of Naples and other princesses, perform the same office for the poor women. As a religious custom I have no objection to it—indeed, it has many beautiful features about it, and scripture can be quoted in its favor; but a hygienist might wish that the ablutions could be extended to the whole body. The next hospital, in the order of visitation, was *La Consolazione*, situated near the Tarpeian Rock, now reduced by accumulations of rubbish to about thirty feet in height. It stands at the base of the Capitoline Hill, and was founded and enlarged by Cæsar Borgia. Its main hall is about two hundred feet long, and contained ninety beds, of which forty only were occupied. The present Pope has added a new wing to this, containing about twenty beds. The width of the halls, forty feet, and the great height of the ceiling, allow of two beds to be placed at each side, as at San Spirito, should occasion require. It is appropriated to patients of both sexes for surgical diseases, especially accidents, as wounds, burns, fractures, etc. Being situated near the populous quarters of the Monti and Trastevere, most of the cases of stabbing are taken to it, and it is never free of cases of this kind. I witnessed a post-mortem examination here of a poor fellow who had been stabbed in the thigh, wounding both femoral artery and vein, and although the artery had been tied, he died of venous hæmorrhage twenty-one days after the accident. The wards were perfectly clean, and admirably ventilated by the large windows above and openings in the walls below near the floor. The beds, which were about five feet apart, were good, clean, and comfortable, the bedsteads of iron, and everything bespoke the utmost care and attention. The brick floor, as usual, was the only drawback. Six secular clergymen constantly reside in a house attached to the hospital, which is also attended by Jesuits and other religious orders. A number of novices also give their constant attention to the sick. Here, also, there is a handsome chapel, the altar of which is visible from every side, where mass is daily celebrated for the benefit of the patients. From all I have seen and heard, I can have no doubt that this salutary provision for the comfort and consolation of the patient is of great value in aiding the efforts of the physician and contributing towards a cure, and I cannot withhold my tribute of admiration for a clergy who show such fearlessness, faithfulness, zeal, and devotion, in promoting the spiritual and temporal interests of the afflicted poor—an example worthy of all imitation by the religious, both clerical and lay, of all Protestant denominations. On the opposite side of the street is the hospital for women. There were but thirty or forty patients, but everything betokened the best management. The hall was large, clean, and well aired, and similar arrangements as regards chapel, etc., as in the male department. There is a small museum in this hospital, containing some beautiful wax preparations by Professor Sartori. There are also

some handsome dissections showing the nerves of the arm and leg, etc. One or more physicians are always in attendance here, ready to attend any cases that may be brought in.

## American Medical Times.

SATURDAY, JULY 25, 1863.

### RIOTS AND THEIR PREVENTION.

Among the improvements which the Emperor of France is said to have recently introduced into Paris, is the removal of a large group of thickly clustered but dilapidated and wretched tenement houses, and the conversion of the site into a public square. The work was undertaken ostensibly to beautify that portion of the city. Those familiar with the history of these abodes of poverty, however, remember this locality as the place where have originated many of the most terrible riots with which that city has been visited; and they shrewdly suspect that the real motive of the Emperor was to destroy the nidus of future mobs and revolutionary movements. The example is one worthy of imitation, in a modified sense, on the part of our city, as we shall demonstrate.

During the past week New York has gone through one of those ordeals of anarchy so common in European cities during civil commotions. Within a few hours of the commencement of riotous proceedings the civil authorities were completely ashore, and in the universal agitation of society the very dregs seemed to float to the surface, and surged to and fro along the streets and avenues, uncontrollable elements of destruction. Business was suspended; public conveyances ceased their rounds; places of public amusement were deserted, and a pall of gloom hung over the city as if some terrible judgment was impending. Few citizens were seen abroad, but at every turn were groups of persons seldom if ever before met in the more respectable parts of the town. Their garments were ragged and filthy, and their faces, stamped with every crime, gleamed with the ferocity of unbridled passions. Individual acts of violence occurred on every hand, and this terrible carnival of murder and arson culminated on the first day in a grand ovation to the demon of the mob in the conflagration of an orphan asylum over the heads of several hundreds of helpless, homeless, and fatherless children. No mob can show a blacker record than that which disgraced New York on July 14, 15, and 16, 1863.

The various political and social phases of this great riot will be largely discussed in the daily papers, but there are some things worthy of record as gathered from a professional standpoint. It is a noticeable fact that the rioters represented for the most part the lowest and most abandoned class of the poor. They proceeded from those districts of the city notorious for their filthy and unpoliced streets, and wretched and uninhabitable tenement houses. Here live and grovel in darkness, filth, drunkenness, and disease, a large population, roughly estimated at twenty thousand. The following description of this class, as drawn by Mr. N. P. WILLIS, an eyewitness to the scenes of arson and murder during the late riot, will be recognised as

truthful by every physician whose duties may have led him into these abodes of wretchedness:—

"The high brick blocks and closely packed houses in this neighborhood seemed to be literally hives of sickness and vice. Curiosity to look on, at the fire raging so near them, brought every inhabitant to the porch or window, or assembled them in ragged and dirty groups on the sidewalk in front. Probably not a creature, who could move, was left in-door at that hour. And it is wonderful to see, and difficult to believe, that so much misery, and disease, and wretchedness, can be huddled together and hidden by high walls, unvisited and unthought of, so near our own abodes. The lewd, but pale and sickly young women, scarce decent in their ragged attire, were impudent, and cattered everywhere in the crowd. But what numbers of these poorer classes are deformed, what numbers are made hideous by self-neglect and infirmity, and what numbers are paralytics, drunkards, imbecile, or idiotic, forlorn in their poverty-stricken abandonment for this world! Alas! human faces look so hideous with hope and vanity all gone! And female forms and features are made so frightful by sin, squalor, and debasement. To walk the streets as we walked them, for those hours of conflagration and riot, was like a fearful witnessing of the day of judgment, with every wicked thing revealed, every sin and sorrow blazingly glared upon, every hidden horror and abomination laid bare, before hell's expectant fire. We have not made the character of 'the mob' a part of our description—it has been done so fully by the daily journals. But we must add our confirmatory remark upon one peculiarity of the confessed rioters. *There were no decent Irish men among them.* Irish they all were—every soul of them—but they were the dirty, half-drunken, brutal rowdies, who are the leprosy of that fair-skinned race. They were the filthy pustules of an eruption on the Irish skin—not to be accounted part of the natural complexion of the blood, but starved down and purged away like a diseased excess. In ordinary life, such fellows sneak about, and hide from daylight, in places where they can drink, and debauch, and contrive wickedness; but here—where this grand fire made them feel like masters, and gave them impudence for the hour—they were the pictures of saucy beggars, half-drunken brutes and robbers, longing to put a clutch upon your throat, and empty your pockets."

It was also noticeable that while business was generally suspended, every establishment where liquor is sold was open, and crowded with customers. Many of the more central grogshops had been previously supplied with money by the chief conspirators, and were directed to give the crowd unstinted measure whenever it made its demand. This was done, and it is due principally to liquor that the inhuman barbarities were practised upon individuals, and many of the attempts of arson were made. Hundreds of industrious laborers driven from their work, and left to wander about the streets, were thus made fends of the most malicious and daring kind. Scarcely an overt act of violence was perpetrated that was not directly traceable to intoxication.

It would be lamentable, indeed, if the fearful lesson which this deeply laid conspiracy against the property and lives of our citizens has taught were allowed to pass unimproved. Transparent as is its political significance, its social bearings are not less clear. We learn the source from which must spring every lawless outbreak against order, law, and the peace of society. The elements of popular discord are gathered in those wretchedly constructed tenement houses, where poverty, disease, and crime find a fit abode. Here disease in its most loathsome form propagates itself from parent to child, more and

more aggravated with each generation. Deformities of the body, typical of mental and moral aberrations, are seen in every household. Unholy passions rule in the domestic circle. Trained in such a school, children grow destitute of every generous impulse, and habituated to scenes of cruelty and vice. Everything within and without tends to physical and moral degradation. The noisome atmosphere which they breathe, the scanty and depraved food which they eat, combine to dwarf the body and mind, and lead to the most vicious habits. Here, in the tenement houses of our city, we find the seeds of civil discord, of every species of vice and crime, always ready to germinate with the slightest stimulation. Relax the legal restraints which surround the tenants of whole blocks of buildings, and madden them with rum, and they rush forth prepared to commit the most fiendish acts. As long as New York disregards the home life of this class of the poor, she nourishes in her bosom a viper which any day may inflict a fatal wound.

The great and patent prevention for riots like that which we have witnessed is radical reform of the homes of the poor. No family circle can be practically virtuous which grovels in the cellar or the garret, deprived of the sunlight and fresh air; nor can a family be very vicious which enjoys airy and spacious rooms, and is surrounded by the health-giving influences of pure air, sunlight, cleanliness, and thrift. Every family in this city could be thus accommodated, did our authorities care to undertake the work. The old rookeries in crowded and filthy districts should be destroyed, and new and convenient houses built. Tenement houses can be made convenient for families, with sufficient air-space and sunlight, proper rooms for cooking, eating, and sleeping, and still be remunerative. But no landlord will consult the wants of his tenants until compelled to do so by the rigid enforcement of law. To accomplish this necessary and now imperative reform, we must have a clean Board of Health. An enterprise involving such important municipal improvements will never be carried successfully forward by a mere political official. No less important is it that the retail of ardent spirits should be placed under more stringent regulations. At present the largest license is given, or at least taken, and a rising mob finds at every corner the maddening draught awaiting its arrival. Dram-drinking, like prostitution, is one of those terrible social evils which every philanthropist wishes blotted out of existence, but which is still subjected to only a very modified control. This control should be more absolute than at present. In times of popular excitement every grog-shop should be closed, and the sale of liquors made penal.

If the reforms which we have suggested could now be effected, the terrible lesson which New York has learned would not be in vain.

#### THE WEEK.

THE Coroners of New York enjoyed a very fine harvest during the riots. They seem to have gone through their inquests with remarkable despatch. We cannot learn that any investigation has yet been instituted by a coroner in regard to the circumstances attending the deaths of the persons concerned. We trust it is not true, as alleged, that not a Coroner has dared to examine a case or make an autopsy, lest he should incur the displeasure of the

mob. Such imbecility in county officers, not less important than the Sheriff, would deserve the severest censure.

SEVERAL striking differences are noticeable between soldiers and rioters. The soldier seldom admits that his wound was received in the back, but the rioter always places himself in the position of retreat when describing the manner of receiving his wound. Again, the soldier will seldom part with the missile which is removed from his wound, prizing it as a most honorable evidence of his bravery; the rioter, on the contrary, does not wish to retain this witness to his shame and crime.

ONE of the most deplorable results of an attempt to suppress mobs by military force is the destruction or maiming of the innocent. Of the three or four score wounded taken to the hospitals several were little boys and girls. The wounds are of the most frightful character, and will leave permanent deformity.

## Obituary.

JOHN WATSON, M.D.

DR. JOHN WATSON was born in Londonderry, Ireland, in April, 1807. His parents (of Scotch descent) emigrated to this country in 1810, and in 1818 became residents of this city. Young Watson received a good English education, with some instruction in the Greek and Latin languages, but his circumstances did not permit him to enter college. For two years he was engaged in school-teaching as a means of support. In 1827 he entered the office of Prof. J. M. Smith as a student of medicine, where he was distinguished for his industry and most assiduous devotion to study, taking full notes of all the lectures, with daily attendance upon clinical instruction at the New York Hospital. Before his graduation he served as house surgeon at the hospital, and after passing a most creditable examination the degree of Doctor of Medicine was conferred upon him, in March, 1832. In 1833 he was appointed one of the attending physicians of the New York Dispensary, in Centre street, and retained the office for several years. In the spring of 1835 he spent a few months in Great Britain and on the Continent, in company with an invalid family: thus having afforded him an excellent opportunity of visiting medical schools and hospitals, as well as of forming many valuable acquaintances among the most distinguished of the profession, with many of whom he continued in active correspondence in after life. In 1836 he was, with others, instrumental in forming the New York Medical and Surgical Society. In 1837, in connexion with Drs. Swett, Beales, Bulkley, Adams, and Roberts, he established the "Broome Street Infirmary," and in the following year the same parties, in conjunction with Drs. Post, Buck, Macdonald, and Vandervoort, established the "Broome Street School of Medicine," with courses of lectures in the spring and fall during the college recess. Dr. Watson filled the chair of Surgical Pathology for three years, when the school became merged in the spring course of the College of Physicians and Surgeons. Having been appointed in 1838 one of the surgeons of the New York Hospital, he first introduced regular clinical instruction by courses of lectures, although to Dr. A. H. Stevens is due the honor of having first delivered occasional clinical lectures in this institution. Dr. Watson here was instrumental in establishing many reforms, more especially as regards heating and ventilation, upon which subjects he published a valuable monograph in 1851. He continued twenty-four years in office. In 1839 Drs. Swett and Watson established the *New York Medical and Surgi-*

*cal Journal*, published quarterly; it was conducted with great ability, and was well patronized, but closed its career after two years' existence, the expenses having, as usual, eaten up the profits. In 1837 Dr. Watson accepted propositions from Dr. Alex. H. Stevens to become his associate in practice, and, upon the retirement of Dr. Stevens in 1849, succeeded to a large and most lucrative business. This was the turning-point of his career, and determined the fortunes of his after life. In 1847 he took an active part in the organization of the American Medical Association, and also of the New York Academy of Medicine, although, for private reasons, he did not become a fellow of the Academy until many years after. He was twice elected Orator, and in 1859 had the honor of being chosen its President. In the spring of 1862 the insidious approaches of his fatal malady, scirrhus of the rectum, first manifested themselves, and he was debarred from the active exercise of professional duties. He was confined to his room and to his couch for more than twelve months previous to his decease, and during this long period of suffering displayed great fortitude and resignation. His death occurred on the morning of the 3d of June. Dr. Watson, though not a learned man in the strictest sense of the term, was yet familiar with the writings of the early Greek and Roman medical authors, and, through translations, with the Arabic. It was his pride and pleasure to collect together without regard to expense the best editions of the early writers on medicine, and he has left behind him in this regard the most valuable private library in this country. He was a voluminous writer, as the medical journals for the last thirty years bear testimony, in monographs and published cases; but the greatest efforts of his pen will appear in his posthumous publications. These are entitled, "The Obscurities of Disease," "Clinical Acumen, or Sources of Misjudgment in the Study of Disease," and "A History of Medicine." Ardent in his attachments, impulsive and irritable in his temperament, but not vindictive, a learned and skilful practitioner, a judicious counsellor, his death has created a blank in the profession not easily filled; while his career presents a remarkable instance of successful industry under early disadvantages, and an example worthy of all imitation. "*Vale, in ceterum, vale.*" J. G. A.

## Correspondence.

### REMARKS ON THE ORDER OF THE SURGEON-GENERAL.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—I was much gratified with the timely and temperate remarks upon Circular No. 6, of Surgeon-General Hammond, contained in the editorial of your issue for the 20th ult.; and the speech of Surgeon Cox, and the letter of the Surgeon-General, which have appeared in the two subsequent numbers, give promise that the spirit which dictated the circular, and the facts on which it rests, will presently come to be understood and appreciated by all candid and discriminating medical men, whether in the army or in civil life.

The affair, as put by the Surgeon-General, is very simple and pointed, viz.: from official reports of Inspectors, Medical and Sanitary, and from modern pathology, he learns that calomel and tartar emetic are very much abused by military surgeons, are not essential to the proper management of diseases incident to soldiers, and that the evil arising from the abuse of drugs in the army outweighs the good that flows from their proper administration.

If honestly convinced of these premises, the Surgeon-General would be guilty of a dereliction of duty and great inhumanity if he had not done just what he did do. Then what is there in his action to make heat and bad blood among

medical men? And yet there has been manifested an asperity of feeling and an intemperance of language by some members of the profession rarely, if ever, before witnessed. This intense perturbation is only to be accounted for on the theory that there is in the profession a species of fetishism, whereof calomel is the idol, and the Surgeon-General is cursed as an iconoclast by these disciples with all the bitterness and blindness common to heathen idolators.

Measured by the rule usually applied to the interpretation of public documents, nothing can be found in the circular asserting general ignorance in military surgeons, or in anywise reflecting upon private practitioners. It implies what every one knew before, that there are some ignorant and incompetent surgeons in the army. From the hands of such unwise practitioners the Surgeon-General takes the flaming swords of calomel and tartar emetic: all others know how to treat disease as well without these agents as with them. He has, therefore, by a happy expedient, devised a means of preventing the incompetent from doing mischief with two powerful drugs, and has not thereby taken anything essential from the hands of the competent.

The asserted inconsistency of the Surgeon-General in cutting off the supply of calomel and permitting unobstructed access to the other preparations of mercury, is, in fact, a conclusive evidence that he proceeds upon a just and enlightened understanding. He has no quarrel with mercury: it is an excellent medicine, and he leaves seven different preparations of it in the supply table for the army, obtainable as all other drugs are obtained. Calomel has been abused, has caused great and unnecessary mischief, and he has, therefore, placed it, not entirely out of reach, but in such position that special exertions are required to obtain it. This will serve, not only as a very pointed caution in the use of calomel, but also act as an excellent monitor to the judicious exhibition of all mercurials, and go far towards abolishing the evils arising from the careless administration of them.

Comparatively few physicians now prescribe calomel and tartar emetic to the extent it was done a few years since; and there are some who discard these drugs almost entirely, using the milder and less perturbing medicines of the same classes to accomplish the ends formerly sought to be attained through their agency. Probably no one familiar with the present state of medical science and the resources of our pharmacopoeia, regards calomel and tartar emetic as indispensable agents in the treatment of disease; doubtless many look upon them as great conveniences, but that is the highest position that can at present be claimed for them.

Let the profession give this circular, and the effects it will produce, a calm, unprejudiced, and deliberate consideration, and I venture the prediction that it will prove a boon, not only to the army and military surgeons, but also to the people and civil practitioners of medicine.

Yours etc.,

JAS. F. HIBBERD, M.D.

RICHMOND, IND., July 10, 1862.

## Army Medical Intelligence.

ORDERS, CHANGES, &c.  
SPECIAL ORDERS, No. 804.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, July 9, 1862.

9. Surgeon W. Clendenin, U.S.V., will report without delay to the Commanding General, Department of the Cumberland, for duty.

5. So much of Special Orders 124, current series, from this Office, as dismisses Surgeon W. D. Stewart, U.S.V., is by direction of the President revoked, and he is hereby reinstated in his former position in the army.

17. Assistant-Surgeon James F. Weeds, U.S.A., is, on account of sickness, hereby relieved from duty in the Department of the Cumberland, and will report in person without delay to the Surgeon-General.

By order of the Secretary of War,

E. D. TOWNSEND,  
Asst. Adjutant-General.

## SPECIAL ORDERS, No. 800.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, July 7, 1893.

9. Assistant-Surgeon A. W. Tryon, 100th New York Vols., will report in person, without delay, to Surgeon E. O. Abbott, U.S.A., Medical Director, Department of Washington.

14. Leave of absence is hereby granted to the following Officer:  
Assistant-Surgeon E. M. Corson, 69th Pennsylvania Vols., for twenty days.

The following assignment of Medical Officers is hereby made:  
Assistant-Surgeon Joseph C. Bally, U.S.A., now on duty at Fort Monroe, Va., to report to Surgeon Jonathan Letterman, Medical Director, for duty with the Army of the Potomac.

Assistant-Surgeon Harvey E. Brown, U.S.A., now on duty at Portsmouth Grove, E. I., to report to New York city, and report to Major-General Wool, commanding Department of the East.

Medical Inspector W. H. Mussey, U.S.A., now on duty in this city, to report to General Kelly, commanding Department West Virginia.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Assistant Adjutant-General.

## SPECIAL ORDERS, No. 282.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, June 26, 1893.

14. Surgeon James Holland, 1st Massachusetts Cavalry, is hereby honorably discharged the service of the United States, on account of physical disability.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Assistant Adjutant-General.

## SPECIAL ORDERS, No. 261.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, June 25, 1893.

9. The following officer, having tendered his resignation, is hereby honorably discharged the service of the United States:

Assistant-Surgeon John M. Huston, 48th Pennsylvania Vols., on account of physical disability.

16. The following officers (published officially May 25th, 1893), having failed to appear before the Military Commission instituted by Special Orders No. 55, current series, from the War Department, within the prescribed time, the President directs that they be dismissed the service of the United States, to date May 25, 1893, for the causes set opposite their respective names.

Disobedience of orders, failing to report for medical treatment in this city, as ordered.

Assistant-Surgeon Elbert Bowland, 137th New York Vols.

17. So much of Special Orders 109, current series, from this Office, as musters out of service Surgeon Herman B. Linton, 175th Pennsylvania Vols., for "inefficiency and neglect of the sick," is hereby amended so as to honorably discharge him from the service of the United States, to date January 18, 1893.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Assistant Adjutant-General.

## SPECIAL ORDERS, No. 295.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, July 6, 1893.

5. Surgeon T. Sim, U.S.V., now attending Major-General Sickles, U.S.V., will remain on that duty until further orders.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Assistant Adjutant-General.

## SPECIAL ORDERS, No. 283.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, June 30, 1893.

5. The following enlisted men are hereby honorably discharged the service of the United States, to date May 31st, 1893, having been appointed Clerks in the Surgeon-General's Office:

Hospital Steward E. J. Keferstein, U.S.A.

Hospital Steward M. H. Van Der Veer, U.S.A.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Assistant Adjutant-General.

## SPECIAL ORDERS, No. 275.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, June 22, 1893.

1. Leave of absence is granted the following named officers, on Surgeon's certificate of disability:

Surgeon J. G. Perry, 30th Massachusetts Vols., for thirty days.

5. Surgeon George Buckley, U.S.V., will report in person, without delay, for duty to Major-General Sebenck, commanding Middle Department, as soon as his services can be dispensed with in the Army of the Potomac.

11. The appointment of Sherman Morse, as Assistant-Surgeon, 2d New York Cavalry, March 26, 1893, is hereby revoked, he having failed to report for duty with his regiment.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Asst. Adjutant-General.

## SPECIAL ORDERS, No. 279.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, June 24, 1893.

2. The following assignment of medical officers is hereby made:

Assistant-Surgeon James M. Shearer, 13th Pennsylvania Reserve Corps, now on duty with his regiment, to report to the Medical Director, Department of Washington, for hospital duty.

Assistant-Surgeon W. F. Norris, U.S.A., recently appointed, to report to the Medical Director, Department of Washington.

Assistant-Surgeon Michael Hillary, U.S.A., recently appointed, to report to the Medical Director, Middle Department, at Baltimore, Md.

Assistant-Surgeon Edward Cowles, U.S.A., recently appointed, to report to Surgeon W. S. King, U.S.A., Medical Director, Department of the Susquehanna, at Harrisburg, Pa.

Assistant-Surgeon S. M. Horton, U.S.A., now on duty at Memphis, Tenn., to report to Colonel M. B. Howe, 3d United States Cavalry, for duty with his regiment.

Assistant-Surgeon W. R. Ramsey, U.S.A., now on duty with the Army of the Potomac, to take charge of the General Hospital at Chester, Pa. Surgeon L. H. Holden, U.S.A., now on leave of absence, to proceed to Pittsburg, Pa., and report to Major-General Brooks, as Medical Director of the Department of the Monongahela.

Assistant-Surgeon E. T. Whittingham, U.S.A., now on duty in the Army of the Potomac, to report in person to the Surgeon-General for duty in his Office.

Assistant-Surgeon C. D. Brooks, 26th Michigan Vols., now on duty in this city, to join his regiment without delay.

Assistant-Surgeon Warren Webster, U.S.A., now on sick leave for New York, to report for duty to Surgeon Charles McDougall, U.S.A., Medical Director, Department of the East.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Asst. Adjutant-General.

## SPECIAL ORDERS, No. 285.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, June 27, 1893.

8. Surgeon John F. Head, U.S.A., having been detailed as member of a Board of Officers, to assemble at Columbus, Ohio, on the 1st July, 1893, for the examination of Officers who may report at that place, under General Orders Nos. 61 and 100 of 1892, from the War Department, is relieved from duty as Medical Director at Louisville, Ky., to enable him to sit on said Board.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Asst. Adjutant-General.

## Medical News.

**THE PHYSIOLOGY OF MORMONISM.**—By Charles C. Furley, M.D., Assist. Surg. U.S.A.—A marked physiological inferiority strikes the stranger, from the first, as being one of the characteristics of this people. A certain feebleness and emaciation of person is common amongst every class, age, and sex; while the countenances of almost all are stamped with a mingled air of imbecility and brutal ferocity. This, in fact, is their true character; they being obsequious and yielding to their superiors—to strangers sullen and spiteful, while among themselves they are cold and unamiable. In the faces of nearly all, are defects, the evidences of conscious degradation, or the bold and defiant look of habitual and hardened sensuality—the women, with but few exceptions, shrinking from the gaze of the stranger, as if fully alive to the false and degraded position they are forced to occupy. Some seem overwhelmed with shame; others wear a forlorn and haggard appearance; while a few put on a cheerful air, affecting to be satisfied with their sad condition.—*Med. Press.*

**Messrs. Wood, of New York,** are about to publish a work on the Diseases of the Ear, their Diagnosis and Treatment, by Dr. Von Tröltsch, Surgeon and Lecturer in Würzburg, Bavaria, translated and edited by D. B. St. John Roosa, M.D., late House Surgeon in the New York Hospital, Surgeon for the Eye and Ear in the N. E. Dispensary.

**Prof. F. H. Hamilton,** Medical Inspector U. S. Army, has recently been twice made a prisoner by Morgan's guerilla band. The first time they stole his baggage and then set him free; the second time he was immediately released.

## Original Lectures.

### DISEASES OF THE RESPIRATORY ORGANS IN CHILDREN.

BEING A COURSE OF LECTURES PREPARED FOR DELIVERY DURING THE SPRING  
SESSION OF 1868 IN THE COLLEGE OF PHYSICIANS AND SURGEONS, N. Y.

BY THE LATE

C. VAN ALLEN ANDERSON, M.D.,

PHYSICIAN TO CHILDREN'S DEPARTMENT, DEMILT DISPENSARY, N. Y.

#### LECTURE IV.—PART III.

##### PERTUSSIS—ITS COMPLICATIONS.

FINALLY, gentlemen, whooping-cough may be complicated with some of the exanthemata, particularly with measles, to which it seems to be in some mysterious way related. In the majority of cases the convulsive cough succeeds the appearance of the eruption. The cough of the catarrh of rubeola, instead of dying away with the other symptoms, continues, becomes more frequent, especially at night, and soon assumes the kinks and the hoop; there we have the injection of the face, the vomiting, the expectoration of ropy mucus, and, in a word, all the symptoms of pertussis. This form of the complaint possesses neither its usual violence nor its usual persistence; but, on the other hand, is very strongly inclined to run into capillary bronchitis or pneumonia.

As there are no distinctive post-mortem appearances in a case of simple whooping-cough—as its mortality depends chiefly upon its complications, and as upon dissection we find only alterations that are due to them—the disease can hardly be said to have any pathology; but numerous and widely differing opinions have prevailed as to its nature.

It has been regarded as attributable to the inhalation of the eggs of a minute species of insect—to some irritating effluvia cast off from the blood into the lungs—to derangement of the intestinal canal—to a morbid change in the liver—to crude and bilious matter in the stomach—to inflammation of the larynx or bronchi, and to peculiar irritability of the glottis. Many authors consider that it is owing to disease of the brain and its membranes, and others again that it is essentially nervous or spasmodic, its true seat being undetermined.

The mode of death, you will remember, is usually either through the lungs or the brain; and it is in these organs that we shall find nearly all the structural lesions of importance. The vessels of the brain and its membranes are frequently discovered distended with blood, though this is not an invariable appearance, for it is sometimes absent even in cases of convulsion and coma; softening of the brain-substance is exceedingly rare; but we may now and then find a collection of blood in the ventricles.

The lungs present the anatomical changes which we know to result from the pulmonary complications. The mucous membrane of the bronchial tubes is more or less red, and their cavity is filled by mucus or by mucopurulent fluid. Several authors also notice a decided increase in the calibre of the air tubes, which is one of the consequences of inflammation of them. We may also discover more or less extensive collapse of the lung, characterized by the solidity and violet hue which we have before noticed. And to these may be added the lesions of pneumonia or of tuberculosis.

Dr. James Duncan seems to have hit upon the true idea of whooping-cough when he proposed to class it with the eruptive fevers; and however extraordinary this notion may appear at first sight, a little consideration will convince us of its value. It is evident that, while there is some disarrangement of the nervous system in pertussis, we can hardly call that a nervous disorder which attacks an individual but once in his lifetime, which is often

epidemic, and sometimes contagious; but, on the contrary, we all know that these qualities belong peculiarly to the exanthemata. Like these febrile diseases, whooping-cough is oftenest met with in infancy and childhood, is preceded by a period of incubation and by a period of precursory symptoms, has a stage of augmentation and a stage of decline. It is also more closely allied with measles, because, like it, it often follows epidemic catarrh, is complicated by bronchitis and pneumonia, and terminates frequently in tuberculosis.

Many of its phenomena may be explained by a lesion which is often discovered in the bodies of those who die of it, namely, some disorder of the pneumogastric nerve. Thus, the frequent vomitings can be produced by an influence propagated through the filaments which ramify upon the stomach. The hoop which follows the expiratory cough depends on the spasmodic contraction of the glottis through the agency of the recurrent laryngeal. The swelling and lividity of the face, the epistaxis, and the various hæmorrhages which we have observed, are secondary phenomena resulting from the venous congestion of the capillaries, which is in turn caused by the complete emptying of the lungs of air. The accumulation of venous blood, also, in the vessels of the brain and spinal-cord, prevents a proper stimulation of these nervous centres, and very probably compresses them: whence result the headache, drowsiness, and convulsions, that appear during the paroxysm.

Whooping-cough being in all probability owing to some poison circulating in the blood, just as intermittent fever is, it is not unreasonable to suppose that pathological chemistry will at some future age furnish us with an antidote for it. But at present we are obliged to treat it very much as we do its relations, the eruptive fevers—that is, to let it run its course, and guard against its complications. It is a disease that is rebellious to all treatment, and yet we have an enormous list of specifics against it; a fact that we can explain by the length of the disorder, the fatigue which it causes, the impatience of the parents, and the small success of preceding treatment—which circumstances induce us to try our hand at it anew. We must not endeavor, then, to cure the complaint, for this we cannot do, but our efforts should rather be directed towards modifying its intensity, and preventing its intercurrent diseases.

To attain this object we have various means, and among them hygienic precautions will first engage our attention. The child should be kept as much as possible from cold and damp, but when the weather is clear and dry, it should have abundant exercise in the open air. Care should also be taken that the clothing is suitable to the season—light and cool in summer, warm and soft in winter—that the skin is kept perfectly clean, and the bowels regular, and that the food be well chosen, and given at proper times. The meals should not be very copious, but at the same time they may be more frequent than usual. The milk of the nurse is of course the best food for an infant at the breast, provided we assure ourselves that the woman is in a proper condition to produce a healthy secretion. Older children will require nourishment that is easily digested, such as light soups, fresh eggs, plenty of milk, baked fruits.

When the disease is preceded by the usual catarrhal stage, our treatment during that period will be extremely simple. As an equable temperature is desirable, our patient is to be confined to the house, and not allowed to wander about halls and passages where the irritability of the bronchi will be increased by draughts of cold air. A light and unstimulating diet, an occasional laxative, a mild expectorant, and if there be much wheezing, an emetic of ipecacuanha, every evening, will answer all indications.

If the disease pass into the convulsive stage, the cough and hoop being very slight, and the paroxysms few in the course of the day, but two remedies will be required—care and time. If, however, the intensity of the disorder be such that we are forced to have recourse to medicine, let



us begin with those articles which will least debilitate our patient, and the administration of which can be continued for a length of time; for by this plan we reserve our strength for emergencies when it may be imperatively called for. The French speak highly of the subcarbonate of iron, given in doses of from five to fifteen grains, and remark that it is particularly useful in cases where the child is naturally delicate, and where the disease has debilitated him from its duration and intensity. The oxide of zinc, also, is another of these remedies which has been used upon the Continent with considerable success; and as it has neither taste nor smell, the child may easily be induced to take it. A powder containing a grain each of oxide of zinc and musk, and nine grains of white sugar, may be given every two hours to a child two years old.

Among the remedies most frequently resorted to are some of the narcotics. When I speak of narcotics, opium will, of course, be instantly suggested to you, and, indeed, it was a great favorite with the old physicians. At present, however, it is not so much used, for it favors cerebral and pulmonary congestion, produces restless prostration, a diminution of expectoration, and dryness of the fauces—symptoms not at all favorable. It is better to reserve it for certain special cases where the cough is so intense as to cause great agitation and sleepless nights; under such circumstances we may employ some of the milder preparations of it, such, for instance, as the camphorated tincture.

Belladonna, however, is deserving of more confidence in this disease, and has been very extensively employed both by German and American physicians. From my own experience I can speak very highly of its good effects, having used it in some two or three hundred cases. Acute bronchitis, and cerebral and pulmonary congestion, of course, contra-indicate it; and we should also be careful to begin with small doses, and watch it closely. In the Demilt dispensary one sixty-fourth of a grain of the extract is given to a child one year old, every three hours, and the dose is increased with the age. Some physicians direct it to be given in gradually increased doses, until its effect upon the pupil becomes evident, and some of the symptoms of narcotism are produced; but I have never found it necessary to carry it to this extent.

Lastly, hydrocyanic acid is countenanced by the great authority and experience of Dr. West. He begins with half a minim of the dilute acid every six hours for a child nine months old, gradually going up to one minim every four hours. It seems to him to exert an almost magical influence on the cough, diminishing the frequency and severity of the paroxysms almost immediately; while he acknowledges that in many cases "it seems perfectly inert;" and in others "exerts its peculiar poisonous action upon the system, so as to render its discontinuance advisable." I should advise you, therefore, when you have so many safe and more reliable drugs, to have recourse to this only with great reluctance.

The complications which appear in the convulsive stage require great judgment in their management. You are never justified in abstracting blood, or in adopting a depleting plan, because your object is to support the system, so as to enable it to overcome the disease. Bronchitis and pneumonia are to be met by efficient counter-irritation externally, and by expectorants, and even stimulants, internally. At the same time, having in mind the tendency there is to collapse of the lung in whooping-cough, and how much that tendency is aided and augmented by the copious accumulation of tenacious mucus in the bronchi, you will endeavor to keep these tubes free by the frequent administration of emetics.

If convulsions occur, we must remove their exciting causes as far as we can; the bowels are to be opened either by enemata or purgatives, the gums lanced, and warm baths resorted to. If we are treating the child with any narcotic, it should instantly be abandoned. Cold lotions to the head, leeches behind the ears, and sometimes blisters to the nape of the neck, are means that we may resort to.

But as the convulsion generally arises from the violence of the cough and the repeated arrest of the circulation, our hopes of preventing or curing them are very slight indeed. Dr. Churchill, however, reports one case in which, though it terminated fatally, chloroform seemed to be of service.

The treatment of the third stage of pertussis depends much upon the nature of the case. If its course has been regular, change of air is usually all that will be required. If the bronchi continue loaded with viscid mucus, the skin cold and moist, and the pulse frequent and feeble, the administration of from three to five grains of alum every hour or six hours will be found useful. Where the complaint ends in tuberculosis, you will, of course, adopt the proper measures for that condition; and in all cases, even when the disease has been mild in its progress, you will be careful to avoid for a long time all circumstances which can give rise to pulmonary irritation. Tonics, such as iron or cinchona, will be needed to complete the cure.

I have only been able to give you, gentlemen, a sketch of the kind of treatment that is appropriate to whooping-cough. In the course of your studies you will discover an innumerable host of specifics for it; but you will finally become convinced that you cannot arrest the disorder, and that your wisest course will be to palliate it so far as you can, to detect the complications early, and treat them promptly, to put your patient under a wise system of hygiene, and then to trust to the conservative powers of the greatest of all physicians—Nature.

## Original Communications.

### REMARKS ON HOSPITAL GANGRENE.

By GEO. R. WEEKS, Surg. U.S.V.,

IN CHARGE OF M'PHERSON HOSPITAL, 17TH ARMY CORPS, DEPT. OF TENN.

WHILE on duty in the Department of the Ohio I was requested by Surgeon M. Goldsmith, U.S.V., to personally observe and report any facts of interest in regard to cases of "hospital gangrene" that had been treated in the various hospitals in Louisville, Ky., of which he was Surgeon-in-Chief. I personally observed at that post one hundred and fifteen cases, and six have occurred at this hospital since my arrival here.

In the collection of the facts at Louisville, Ky., I had access personally to many of the cases. I conferred with the surgeons in charge of the various hospitals, and those also in charge of the different wards. I also had access to the notes and case-books, from which sources the following facts were taken, and have been reported to the Surgeon-General:—

There were one hundred and fifteen cases treated in the various hospitals in Louisville, Ky. Of these one hundred and four were treated with bromine in some manner, and eleven by other remedies. Of those treated by bromine, three died: two of pyemia, and one of cellulitis, gangrene having been previously arrested, and the wounds were granulating. Of the eleven otherwise treated, three died of gangrene. Of those treated by bromine, eighty were treated with compound solution (Smith's formula), and twenty-four with pure bromine. The average time of arrest in the cases treated by compound solution of bromine was 8.19 days; those by bromine pure, 2.12 days; and of those otherwise treated, 14.66.

I observed this general fact, that, as the strength of the remedy was increased, the process was shortened in a corresponding ratio also; also, that, where bromine pure was properly and efficiently applied, only one application was required to arrest it, although three or four days were afterwards necessary for the development of granulations.

Another and more important fact was observed, i.e. that the local application of bromine to a gangrenous surface

had a *direct* effect upon the constitutional symptoms, which were immediately lessened in violence, and the constitution rebounded as if relieved of a burden: this was the case with those who had no constitutional treatment whatever.

So constantly was this observed, that I am inclined to adopt the following—

#### PATHOLOGICAL VIEWS OF THE DISEASE.

That, primarily, it is entirely *local* in character. That the constitutional disturbance is secondary, the "*materies morbi*" being received into the circulation by absorption, directly from the traumatic surface, where the morbid element is deposited or manufactured during the *early part* of the chemico-vital changes that take place during the establishment of the putrefactive fermentation in or upon the sore. In support of this view I would present the following reasons:—

Many cases were observed where both legs were wounded with the same ball; *one only became gangrenous*. If the morbid agent was in the blood, why were not all alike affected, as all were supplied from internally by the same material? One case was reported where gangrene attacked the dorsum of the foot, there being a small abrasion there of the cuticle. The original wound was not in the calf of the leg. I ascertained from his nurse that he would not keep his feet covered, and that the original wound had been dressed by simple cerate, and never at any time had shown a gangrenous disposition. I also observed that the constitutional symptoms *followed* the local, not appearing until several days after the wound had taken on a gangrenous character.

Perhaps the observance of the past will warrant me in saying that this disease is *aggravated*, if not *produced* by crowded hospitals, small amount of air-space, and the decomposition of animal matter which is held in solution or in vapor in the atmosphere. If so, it must enter the system by endosmosis through the pulmonary structures, mingled with the current of the blood, and distributed by the arteries to distant parts of the system; or be directly absorbed from the wound, which, I think, is the more rational idea, and which is capable of explaining most of the phenomena observed. I cannot quite see how, in gaining access by endosmosis through the cell wall and pulmonary structure, it does not leave some of its morbid element at this point, thus affecting the bronchial mucous membrane. We have the right to expect, at least, that its first impression would be the most deadly.

Where obstruction in the lungs has occurred, or metastatic abscesses have been found, the obstruction was on the cardiac side, several specimens of which I now have in my possession, where the bronchial mucous membrane is not involved, but where the capillaries and smaller vessels are entirely occluded, as I think, by particles of thrombus, detached either by the force of the current passing by and carried with it until arrested by the calibre of the vessels, or formed by the septic condition of the blood received from the wound.

The virus being absorbed from the wounds and mingled with the blood coagulates the plastic portion, and thus forms thrombus, thus impoverishing the remainder and rendering it aplastic. This process (the formation of thrombus) is a gradual one, and may progress or remain stationary in the vessels after the process is arrested locally.

Virchow has many facts bearing upon this question, i.e. the formation of thrombi, and the transformation of the cell content, but my limit will not permit the discussion of these questions. But I have found in the examination of all cases after death in this class of diseases, thrombi, and in those of long standing I have found "*occlusion*" of the smaller vessels, and what I denominated "*mechanical pneumonia*," in which condition the smaller vessels and capillaries were thus obstructed; and where the portion of thrombus thus detached was larger, we had the condition of pyæmia. In no case have I observed it in the liver, although I have frequently sought for it there. I believe

that over these conditions bromine has a specific influence, and if properly used at an early period of the disease, will surely arrest it and its sequences. Very much depends upon the time when the application is made, which should always be as early as possible, in order to avoid its consequences.

It holds superiority over nitric acid, for the reason that it is not so destructive to living tissue, and can be used where the acid is inadmissible on periosteum, tendons, and vessels, without destroying their integrity. It is of great utility in cases of secondary hæmorrhage, where the artery has sloughed, three cases of which have occurred where arteries were tied in gangrenous sores with complete success, thus enabling us to extend the rule of Guthrie to these cases—"always to tie a bleeding vessel in the wound, if it can be reached at that point."

I have tied the anterior tibial artery upon the face of a gangrenous stump, and arrested the process by the use of bromine, and the patient recovered as well as by a primary operation. The brachial and dorsalis pedis artery were tied under the same circumstances, with the same result. The patients are now well. Bromine arrests the gangrenous process so effectually and certainly, that I am inclined to think this procedure good practice. The six cases that have occurred since I have been in this hospital have been promptly arrested by one application, except in the case of Adam Brangle, of Co. I, 1st Regt. U.S. Infantry, who was admitted to this hospital, June 15, 1863, in a profound state of pyæmia. He had been wounded in the hand by the premature discharge of a cannon, and an effort was made to save two of his fingers at Third Division Hospital; gangrene supervened, and secondary amputation was resorted to at the middle of the forearm; gangrene attacked the stump, and extended up as far as the elbow. Absorption had already taken place upon his admission into the hospital, as pneumonia was already apparent from auscultation in the upper lobe of the right lung. I treated the arm with pure bromine, which entirely arrested it on the second day; granulations made their appearance on the fourth day. The arm continued to do well until the time of his death, which occurred on the 26th ultimo. An autopsy revealed thrombi in nearly all the vessels, and "*mechanical pneumonia*," which was the actual cause of death. Thrombus was found extending the full length of the pulmonary artery, and the smaller vessels were completely occluded. At numerous points small abscesses were in process of formation. The lungs were very much enlarged and solidified; the bronchial mucous membrane was slightly congested. Upon making a section through the lung, the thrombi in the smaller vessels could be distinctly seen covering the entire surface with red and deeper colored points, in the large ones becoming almost black—the smaller ones resembling in appearance coagulated venous blood, except that they were more firm and tenacious.

I believe the best mode to apply the bromine to be this, i.e. With a pair of scissors or a scalpel cut away all the sloughs down to the living tissue (or until by hæmorrhage you are warned to go no further), being careful to clean out all nooks and corners putting off from the central sore, or where it has dipped down into intermuscular spaces or followed along the cellular plane, where it is apt to escape observation. Then wash the wound with warm water, and dry with a pledget of lint or charpie; then apply pure bromine to the entire surface with a mop or swab, and if cavities exist inject it into them with a small glass syringe, and with a pine stick press it up so as to mix it with all the pulp or pultaceous matter that may still linger in the wound. Simple dressings should then be applied, and the sore excluded from the atmosphere for two days, when warm-water dressings should be used to facilitate the detachment of the slough, after which points of granulations will be noticed springing up, and, if no fetor is present, the arrest is complete. If some fetor still exists, it is evidence that some points have been missed and should be retouched, observing the same rule as in its first application.

The wound should then be treated on general principles. If the granulations become weak, I have found much benefit from the use of a weak solution of bromine, say forty grs. compd. sol. bromine to 3j. of water, applied morning and evening.

### A CASE OF SUCCESSFUL OVARIOTOMY.

By J. GRAFTON, M.D.,

WATERTOWN, JEFFERSON COUNTY, N.Y.

THIS case is unusually interesting, from the adverse circumstances attendant upon the operation. The patient had been afflicted with spinal curvature from the age of two years. She is now 49; has not stood upon her feet for forty-seven years; has been more or less confined to her bed and room during her whole life, never being able to leave either unless carried in the arms of her attendants. Her spine is curved almost at an acute angle, her thighs flexed on the pelvis and drawn up on the abdomen, knees permanently flexed at almost an acute angle; has no lateral motion between the thighs, there being scarcely sufficient space between them to allow the passage of my arm in making the necessary incisions for the removal of the tumor. As would be expected from this condition of things, she is extremely feeble and emaciated; nervous debility, irritability of the mucous membranes, dyspepsia, and sore mouth, have been almost constant symptoms.

On the 1st of June, 1862, she first observed her present difficulty, the earliest symptom being "a feeling of pressure" about the bladder, with frequent micturition, and a sense of fulness in the lower part of the body.

There has been but little disturbance of the catamenial function, it never having been suspended at any time for more than ten weeks: is regular now. She did not discover any signs of external enlargement until last December, since which time she has increased rapidly, and, in consequence of her spinal deformity, appears now much larger than a woman at the full period of pregnancy. On the 14th of May, in consultation with the family physician, Dr. R. Kinney, of Mannsville, I explained to her the nature of her disease, its tendency to death, and described the different modes of treatment—palliative and radical—advising, in view of her deformed condition, which induced me (erroneously) to think that life could have no charms for her, the palliative operation of tapping, and subsequently, if she wished it, injection of the sac with iodine, if the preliminary tapping proved the cyst to be *unilocular*.

On the 14th of April I tapped her with a large trocar, and, owing to the extreme viscosity of the contents of the cyst, did not remove more than two ounces of thick white gelatinous fluid, and this amount by dragging with the fingers through the canula. I therefore closed the wound, and informed her that *excision* only could afford relief; that in view of her feeble condition and deformity, which would render after-treatment less likely to be successful, I could not advise the operation, but *would make* it at her request, to relieve her, when her suffering from pressure became intolerable.

On the 11th of May, assisted by Drs. Kinney, Clark, F. Lowe, Sherman, Buckley, and Ferrol of Oswego county, in conformity with her request, I removed the tumor by the large incision while she was under the influence of chloroform. The steps of the operation did not differ from those adopted by other operators, and were as follows:—

1st. An incision down to the sac, sufficiently enlarged to admit the hand into the cavity of the abdomen to make the necessary explorations. 2d. The careful separation of the numerous adhesions on its anterior and upper surfaces. 3d. Enlargement of the incision to two and a half inches above the umbilicus to give exit to the tumor, which was multilocular, and also for the purpose of allowing of the more careful separation of the adherent omentum. 4th. The passage of the hand behind the tumor, so as to enable

me to press it firmly forward into the lips of the wound BEFORE TAPPING IT, so as to prevent the escape of any of its fluid contents into the abdominal cavity, and thus avoid unnecessary sponging, which must increase the liability to irritation. In this case I had previously discovered by a former tapping that I could not empty the cyst sufficiently to allow its removal by a canula, although I had provided myself with one whose calibre was one inch. 5th. The tumor proved to be, as diagnosed, the right ovary, and multilocular. The pedicle was very broad, and too short to be secured outside the wound in Spencer Wells's clamp; consequently, I passed through it a double ligature, and encircled both again with a stouter one, and then fastened it in the lower angle of the wound, transfixing it with a pin passed through the *integuments only*. 6th. The careful replacement of the omentum, which, in consequence of its adhesions, had necessarily been much disturbed, and gentle sponging out with a soft warm sponge what little blood had escaped into the abdominal and pelvic cavities. 7th. The careful closing of the wound with six long silver pins, passed one inch from the line of incision on the right side obliquely through the integument, so as to transfix the peritoneum about half an inch from the line of incision, then through the peritoneum at the same distance on the left side, and out through the integument one inch from the line of incision on the opposite side—thus bringing two surfaces of peritoneum together, and insuring that rapid closure of the internal wound which always takes place between serous membranes from the earlier formation and organization of the lymph thrown out. The gaping intervals between the pins were closed by three fine iron wire sutures.

I should note here that the tumor after its removal weighed fourteen pounds; that the abdominal cavity contained about a quart of reddish serum; and also, what excited some gloomy forebodings as to the result, that the *peritoneal* lining membrane of the left side of the abdominal wall looked purple, closely resembling in color the strangulated sac of a bad hernia.

After carefully swathing the abdomen in warm flannel she was placed in bed, apparently none the worse for the operation, of which she had had no consciousness. The amount of blood lost did not exceed a breakfastcupful. Warm water and laudanum dressings ordered, with small doses of morphia, if required.

On the 15th of May I visited her again. Found her free from all evidences of peritoneal inflammation; removed the four uppermost pins; wound healed; pulse seldom under 100, now 120; tongue clean; bears firm pressure everywhere excepting over the region of the removed ovary; no tympanitis; has urinated without the use of the catheter. 18th.—Continues to improve. Ordered the two remaining pins to be removed: to take a dose of oil, as injections fail to operate. 21st.—Visited her again. There was sloughing about the two lower pins, which still remained in place; removed them; above the wound was entirely healed; has had no peritoneal inflammation; no tenderness on pressure; has for the past day retention of urine; drew off about a pint with the catheter. 25th.—Bowels have, from the use of cathartics, moved somewhat too freely; some little sloughing in the site of the retained pins; redness of the integument there passing off. Pulse 116; tongue slightly brown; has some appetite; should take more food and stimulants; about these matters is somewhat notional. June 1st.—Pulse 102; tongue clean; evidently improving; bladder still requires use of catheter; pedicle, which has been carefully covered with collodion, has almost entirely sloughed away; wound everywhere cicatrized, excepting for about three-quarters of an inch around the pedicle; ordered to be well dusted with white oxide of zinc powder; charcoal bags, with which the pedicle had been enveloped, to be discontinued. 8th.—Pedicle has come away, and the wound is now entirely healed; bowels acting well. Dr. Kinney reports "that as far as the operation is concerned she may be said to have

entirely recovered." She is, of course, weak and feeble, as she has always been; needs more nourishment and stimulants. Her bed-sore seems now to be her only trouble; this, in consequence of her deformity, rendering it necessary for her to lie upon her back and resting upon her feet, is more than usually difficult to treat, as we cannot give her the advantage of change of position. July 3d.—Since this she has remained much the same; has regained the control of her bladder, and suffers only from debility; the wound is everywhere firmly cicatrized. She is anxious to ride out, believing that exercise in the open air would increase her desire for food and give her strength. Whether she regains her usual measure of feeble health or not, which is doubtful, there can be no question as to her recovery from the effects of the operation.

## REMOVAL OF THE ENTIRE LOWER LIP,

WITH PORTION OF CHIN AND TWO-THIRDS OF THE BODY  
AND BASE OF THE LOWER JAW OF THE RIGHT SIDE

FOR EPITHELIOMA.

By G. MILIANO, M.D.,

OF NEW YORK.

Mr. J. C. about five years ago noticed growing on the right side of the median line of his lower lip a small hard tumor, for which during all that time he took no medical advice. Finally, as a last resource, and to save or prolong this gentleman's life, an operation for its removal was proposed. When I was called in I found the patient quite pale and disconsolate, suffering much pain and excessive discomfort from having been for months past unable to sleep except when he was under the influence of an opiate. The diseased mass, now more than three and a half inches in length, stretched across from one commissure of the mouth to the other, while it rolled down to the beginning of the prominence of the chin. It looked very much like a bursted sausage. The saliva flowed freely over the tumor, to the great distress of the patient. Two inches beyond the median line of the chin, on the inside of the mouth, the disease had extended to two-thirds of the body and base of the lower jaw; and there existed a large and deep abscess within that bone, which pointed through congested and unhealthy skin without. The patient, as well as his friends, being desirous that an operation should be performed without delay, I appointed the next day of my first visit, December 4, 1862, for its execution, at his house. It was accomplished in this wise: Placed upon a table before a well lighted window, and his head elevated on a couple of pillows, the patient was rendered insensible by chloroform. Two oblique incisions, one starting from each commissure of the mouth, in a manner so as to transfix all the soft parts, were then made to descend to a little above the superior central margin of the chin, and unite there in the form of the letter V, thus isolating the entire deformed lip. These incisions were then extended down on either side of the chin to near the base of the jaw, which went to form, with the previous ones already made, the letter X. Next, one more incision, three-fourths of an inch in length, was run along the side of the bone, to join the inferior lateral right angle of the X. The fungoid lip was then cut away, and the flaps marked out having been dissected off the adjacent parts, the diseased jaw came into full view. A second incisor tooth of the right side was then extracted, and the third molar of the same side not existing, both these spaces were made use of for the introduction of the saw. The tongue was now held to one side by an assistant, a fine straight saw was then applied, and the jaw separated first in front and then at the side. The soft parts were then carefully detached from the bone, and the jaw removed; a portion of the chin for an inch and a half in length and half an inch in breadth, also diseased, was trimmed off. The upper edges of the flaps of either side were now raised and drawn up in a line with the superior lip, while the

lower edges were brought together in an oblique direction which went from the centre of the mouth to the right side of the chin, the whole then being strongly retained in place with pins and the twisted suture. In this way the external lost parts were restored. The incision at the side was left open for dressing with lint the cavity left behind by the loss of the jaw, and for the support of the edges of the remaining ends of the bone, as well as the escape of discharges from the mouth, and favoring the early granulation and cicatrization of the wound. There was comparatively but little bleeding, the two labial arteries only being cut. The operation was necessarily protracted.

On awaking, the patient was well pleased with the exchange of his shocking looks for regular features. Everything went on well, so that at the end of nine days all the pins and the sutures had been removed, and in a few days after the patient was able to be shaved. The wound at the side was left open much longer, daily injections of a weak solution of quinine being used to the parts at each dressing; the patient being fed in the meantime on animal broths and other nutritious liquids and cooling drinks, by injecting the same into his mouth through a silver canula. In five weeks more the wound at the side healed, and the fibrous tissue having become consolidated in place of the old jaw, the patient was discharged cured, and can now sleep and eat satisfactorily, having gained flesh since the healing of the wound. Three months after the operation, patient was doing well, and had been out daily for the previous four weeks, his lip and chin being now natural with the exception of a very narrow cicatrix, which his whiskers will cover.

43 UNIVERSITY PLACE.

## Reports of Hospitals.

### JARVIS U. S. ARMY GENERAL HOSPITAL.

GUNSHOT WOUND OF LARYNX, FOLLOWED BY OEDEMATOUS SWELLING.—TRACHEOTOMY PERFORMED.—RECOVERY.

By DEWITT C. PETERS, Ass. Surg., U.S.A.,

SURGEON IN CHARGE.

CAPT. J. S., 53d Penn. Vols., aged twenty-four years, was admitted July 5th, 1863.

The patient states that July 2d, while awaiting orders with his company at Gettysburg, he received a wound of the neck, which bled so profusely that he had to be carried to the rear, where simple dressings were applied. The hæmorrhage continued for some hours, and finally stopped of its own accord. He was sent with other wounded to this city, and thence to this hospital. At nine o'clock A.M., July 5th, his case was examined by the attending surgeon, who found him bright, breathing easy, pulse 96, and able to converse without difficulty. There was no excessive swelling about the neck; the wound had closed, and no emphysema existed. The patient informed the surgeon that for two days air escaped from the wound at each expiration, and now it had entirely ceased. The wound was supposed to have been made by a buckshot. It is located over the centre of the left plate of the thyroid cartilage. It is about one-quarter of an inch in length, and its course is directly backwards. Where the shot lodged could not be ascertained, but it must have passed through the larynx. The patient's symptoms after admission into the hospital soon became alarming. He fell asleep in a sitting posture, and his dyspnoea was most marked. At twelve o'clock M. his pulse had increased to 116, pulsations per minute, and his breathing was more labored. The patient's chest and face were covered with a cold perspiration, and his expression was extremely anxious. The symptoms indicated that the officer was in a critical condition, and demanded active steps to be taken to save his life. The swelling and œdema around the seat of injury, both internally and externally, were rapidly on the increase;

emphysema had set in, and extended down the chest, especially on the left side, as far as the false ribs. A consultation of surgeons was held, and it was decided to perform tracheotomy. The instruments selected for the operation not being at hand, they were kindly furnished by a distinguished surgeon of this city. A straight incision was made, commencing over the cricoid cartilage, and was carried downwards in the direction of the median line for about one and a half inches through the integuments. The thyroid gland was exposed, and was found greatly distended and infiltrated with air, fibrin, and bloody serum, as indeed were all the tissues. By carefully dissecting the parts on a grooved director, the lower edge of the cricoid cartilage and the upper ring of the trachea were finally reached. A grooved tenaculum was hooked through the trachea just below the cricoid cartilage, and held firm by the hands of an assistant, with the handle resting on the patient's chin. A narrow sharp-pointed knife, guided by the groove of the tenaculum, was then inserted to perforate the trachea, which, owing to its unusual and great thickness, caused considerable impediment to the first attempt. The length of the blade passed out of sight without accomplishing the object, and the patient uttered a complaint of too much pressure. The tenaculum was still steadily held while further dissections and slight enlargement of the bottom of the incision were made. The second attempt proved less difficult, and was immediately followed by the escape of bubbles of air. The fresh wound was thoroughly cleansed, and through the opening a blunt-pointed narrow knife was passed and carried downwards and forward until at least three rings of the trachea had been divided. A very little blood escaped into the trachea, and one or two explosive efforts cleared it of these small clots and a quantity of tough mucus, and the patient breathed easily through the new opening. The operation was completed by introducing a large-sized Dessault's tube, which was properly retained in position in the usual manner. There were no ligatures required, and the amount of blood lost was insignificant. The relief experienced by the patient was instantaneous, and a change for the better in all his alarming symptoms was immediately noticed. His pulse fell to 96 pulsations per minute, and he was soon enjoying a pleasant sleep.

July 6.—The patient's condition is much improved, the swelling is subsiding, and the wounds look healthy. The treatment consists in keeping the patient quiet, giving him flaxseed tea to drink, and fluid nourishment.

July 9.—The patient continues to improve, and as the swelling of the neck has entirely disappeared, the tube was removed and left out. He was watched closely, and on the following day he commenced breathing freely through the natural passages.

July 18.—The wounds have almost healed, the patient walks about, and his voice is as strong as ever. Being anxious to return to his home, he was discharged cured.

*Remarks.*—The operation performed in this case is the one recommended by M. Chassaignac, of Paris. The steps of the operation were not familiar to me, and I am indebted to Dr. Christopher Johnson, of this city, for its adoption. I consider it preferable to any other I have witnessed, and should judge it was particularly applicable in children, where it is all important to retain the larynx and trachea under perfect control during their struggles. The operation was conjointly performed by Dr. Johnson and myself, and I have been truly pleased with the result.

**POWDERING ALOES AND MYRRH.**—Aloes is easily reduced to powder in winter, but in summer it becomes agglomerated so as sometimes to form one solid mass. According to M. Wollweber, this inconvenience may be obviated if we submit the aloes to a preliminary artificial drying until it becomes spontaneously reduced into powder. The same procedure applies to myrrh powder.—*Bull. de Thérapeutique*, vol. lxiii., p. 359.

## Reports of Societies.

### NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, Feb. 25, 1888.

DR. D. S. CONANT, PRESIDENT, IN THE CHAIR.

#### FREQUENCY OF CHRONIC UTERINE INFLAMMATION WITHOUT SYMPTOMS.

DR. FINNELL presented a uterus, illustrating, in a marked degree, what has generally been termed chronic induration. The organ was removed from a lady thirty-five years of age, who died of pneumonia, and who during lifetime had not at any time complained of symptoms referable to uterine trouble. In remarking upon the specimen, Dr. Finnell expressed his belief that it was an error to suppose that chronic induration of the os and cervix uteri carried with it that amount of importance which too many were disposed to ascribe to it. He had for some time back made it a point to examine the condition of the os in autopsies, and had found that it had borne no sort of relation to any symptoms that might have been complained of during life. The pelvic pains so often referred to and complained of, he believed could in most instances be explained in another way.

DR. CONANT stated that he had met with a great many cases of chronic induration of the cervix which were associated with pelvic pains. He had several of such cases where the hardening had been so great that the disease had been pronounced scirrhus. In two cases, where actual cautery had been used, not only had the pelvic neuralgia been relieved, but both women conceived: one bore a child, and the other, when last heard from, was in her seventh month of gestation. He believed that in almost all cases where there was induration of this part of the organ, there was more or less displacement; sometimes there was flexion of the cervix either forward or backwards. He could not explain the reason for the pelvic pains, other than supposing them due to reflex action, but he was certain that in most cases the sufferings could be alleviated, if not altogether relieved, by various local applications to the diseased os.

DR. FURMAN referred to a case which he had treated for the past three years for hypertrophy of the cervix, and in which at no time had any pain been complained of.

DR. CONANT did not think that such a case could be considered under the head of induration.

DR. FINNELL alluded to a case which had been pronounced one of chronic induration of the os by several physicians, and which he had subsequently examined, and had failed to detect anything abnormal. The patient had been under a variety of treatments, which seemingly had been of no avail. By the advice of Dr. Finnell she finally gave up all medication, and in a few months was entirely well.

#### EXPECTORATION OF CRETACEOUS TUBERCLE.

DR. FINNELL presented a second specimen, which consisted of small pieces of cretaceous tubercle that had been expectorated by a clergyman who for some time previously had been suffering from a harassing cough. The patient was in good health, and presented no physical signs of tubercle.

DR. FLINT stated that he had frequently met with cases of expectoration of cretaceous tubercle, but the most striking instance was one which had come to his notice many years ago, where a patient had coughed up from time to time a sufficiently large number of calculi to supply all the medical men for miles around with specimens. That patient had well marked physical signs of tubercular disease. He was advised to change his habits of life, which were sedentary, and go out west, which he did. He became a farmer, and at the end of fifteen years he was in perfect health. Dr. F. stated that the calculi formed as a consequence of the absorption of all the animal matter of the tubercle, leaving the deposit of earthy salts.

DR. FINNELL thought that the existence of concretions was presumptive proof against extensive and progressive tubercular deposit. He had often met with cicatrices at the apices of lungs, but in the majority of cases he attributed the cause to the contraction of fibrinous deposit outside the lung tissue, and not as the direct result of the contraction and disappearance of a pulmonary cavity.

DR. CONANT corroborated such a statement, and remarked that in cicatrices of pulmonary cavities, in addition to the bands usually met with, there were trabeculae extending in different directions.

#### ABSCESS OF LIVER AND BRIGHT'S DISEASE.

DR. LOOMIS presented a specimen of abscess of the liver, removed from a man forty years of age, who was admitted into Bellevue Hospital on the twentieth day of February, in an extremely feeble condition, attended with marked pallor. Aside from this he presented absolutely no sign of disease whatever. He simply gave the history that he commenced to grow weak and emaciated about seven weeks before, and that since then he had been gradually failing. He lingered but a few days after his admission, and died without an examination having been made. The autopsy revealed all the organs of the body healthy, with the exception of the liver and kidneys. The former organ was cirrhotic slightly, and at the posterior and inner surface of its right lobe there was a cavity containing three or four ounces of a tenacious semi-fluid substance, having some of the characters of pus. The wall of this cavity was on one side formed by the kidney, the capsule of which was abnormally thickened, while the organ itself was the seat of fatty degeneration. All the other organs of the body were healthy.

#### MUMMIFIED HEADS.

DR. MERRITT presented two mummified heads of Peruvian Indians. The bones had been removed, and the heads had shrunk to the size of a monkey's, yet the features were perfectly distinguishable, and the skin smooth. The hair was long, straight, black, and glistening. The points of interest were the uniform shrinking of the parts, while at the same time the surface of the skin showed no signs of shrivelling.

#### EXSECTION IN MORBUS COXARIUS.

DR. SAYRE presented three specimens. The first was from a boy five years of age, who had suffered from morbus coxarius for three years, at the end of which time it had advanced to the second stage, the muscles being rigidly contracted, and the patient suffering the greatest agony. Dr. Sayre saw the case in Yonkers, the place of residence of the patient. He divided the contracted muscles, and applied the pulleys with the greatest relief, and in the course of a short time the child was able to get about comfortably. Last fall, however, the patient fell upon the affected limb, and trouble in the hip recommenced, resulting in the formation of an abscess and numerous sinuses connecting with the joint. He was brought to Bellevue Hospital on the 10th of last December, very much emaciated, and in addition to the condition of the hip already referred to, there was noticed a diffused swelling resembling phlegmonous erysipelas, situated over the lower portion of the abdomen. The sinuses in the neighborhood of the hip were freely laid open, and fomentations were applied to the abdominal swelling. The patient running down very rapidly, an operation for exsection was decided upon, notwithstanding no dead bone could be reached by the probe. On cutting down upon the dead bone, it was covered by such a thick layer of periosteum that it was at one time doubtful whether any sequestra existed at all. The acetabulum was perforated by the head of the bone. Besides this opening there was another which communicated with a large abscess underneath the iliac fossa, accounting for the swelling of the lower portion of the abdomen. The boy progressed very well for several days, when pneumonia of the left lung supervened, and he rapidly sank and died on the fifteenth day after the operation. The head and neck

of the bone were removed in the operation, and the extremity of the sawn surface was found covered with soft, healthy-looking granulations. The periosteum which was peeled off from the necrosed bone was also found studded with osteophites.

The second specimen, consisting of portions of the head, neck, and trochanter major, was removed from a patient thirteen years of age, who had suffered from morbus coxarius for seven years. The disease, however, was very slow in progress, and at one time it was thought that it had been entirely arrested. But in the course of a few months after this the trouble reappeared, and soon resulted in the formation of numerous sinuses in the neighborhood of the joints. The thigh was flexed upon the pelvis at an acute angle, the knees drawn up, and there was a large bed-sore over the opposite trochanter. Although no dead bone could be reached through the sinuses, Dr. Sayre was enabled by the character of the deformity to be positively assured that it existed. On putting the finger into the rectum a large abscess was discovered, which communicated with the joint through the sacro-ischiatic notch. In this case also, as in the first, on cutting down upon the diseased portion the periosteum was found very thick, and an involucrum was commencing to be formed. Dr. Sayre decided to saw off the bone below the trochanter before luxating the head, which left the complete envelopes of periosteum *in situ*, the necrosed and separated portion being without the least difficulty turned out of its bed. The operation was performed a week before, and the little patient at last accounts was doing well. In both these instances Dr. Sayre thought that a lesson could be learned not only to operate early, but to rely upon the position of the limb as a diagnostic sign of the existence of dead bone.

The third specimen presented by Dr. Sayre was one of false joint, occurring in the middle and upper third of the ulna of a woman thirty-eight years of age, who for three years previously had been suffering from an ununited fracture. He cut down upon the parts with a view to roughen the ends of the bones and invite union of the fragments, when he discovered the existence of an almost perfect joint, and exsected it. The joint was surrounded by a ligamentous membrane, and had a regular cartilage of incrustation covered by a secreting membrane. The existence of the *bona fide* tissues composing the said joint was proved beyond question by a microscopical examination by Prof. Austin Flint, Jr.

DR. CONANT presented a lower jaw sawn in a manner to illustrate a case of fracture which he had under treatment. The fracture extended through the middle molar tooth obliquely backwards to the angle of the bone, and was the result of a kick received in a quarrel. The lower extremity of the fragment, in consequence of the attachments of the masseter and pterygoid muscles, was drawn upwards and inwards, while the rest of the jaw was deflected towards the injured side in such a way as to produce a hideous deformity. Knowing the difficulty of keeping the fractured ends in apposition, Dr. Conant conceived the following simple and ingenious method of treating the case:—He passed a stout wire through the body of the bone, carefully avoiding the inferior dental canal, and then twisted the two ends around the wisdom tooth of that side. The result was perfect apposition and removal of the deformity. The patient could open the mouth without difficulty.

The Society then adjourned.

DR. HENRY S. HEWIT, Senior Surgeon in the Volunteer Medical Staff U. S. Army, was taken prisoner at Jackson, Miss., while remaining with the wounded. He was afterwards removed to Richmond, Va., and released. After a short residence at Bridgeport, Ct., to recover his health, he has again returned to the army of GEN. GRANT.

A MEDICAL picnic is stated to have been held by the members of the profession at Southampton, England.



# American Medical Times.

SATURDAY, AUGUST 1, 1863.

## MEDICAL EXPERTS.

AMONG the public services rendered to the cause of humanity and justice on the part of our profession, one of the most important and difficult as well as most perilous, is that of assuming the character and fulfilling the obligations of the scientific expert. The word "Expert," in itself, has a peculiar significance; excludes all doubts, conjectures, and expedients on the part of the witness in a court of justice; and demands real, positive, and exact knowledge as it exists at present. We cannot say of an expert, he is *ignorant*, without using a contradiction of terms. The general practitioner cannot be an expert in all branches of our art. If a physician is so qualified in one branch as to be truly an expert, it is presumptive evidence that he is not qualified to act in that capacity in any other department.

In regard to medico-legal questions, of insanity for example, it is to be observed that some are very difficult of solution. In the elucidation of such questions before courts, men who have made them the special object of study, and have had peculiar facility for their investigation in asylums, are alone, exclusively of all other physicians, to be called experts in the real sense of that word. In cases in which it becomes necessary, for the purpose of satisfying the ends of justice, to submit certain substances, or the contents of the stomach, to careful chemical analysis in order to ascertain by the aid of delicate tests whether a man has been poisoned or not, the practical chemist and toxicologist will be called to give their opinion. The same is true in mechanical science or engineering. When obscure points at issue are to be decided, a diploma would be considered of small value, but a well reputed practical and scientific man alone will solve the difficulty to the satisfaction of justice. No one will dispute the credibility of the testimony of the true scientific expert, and he is a real and efficient counsellor of the court.

Nothing can be more palpable than that in all civil or criminal suits of law in which medico-psychological questions are involved, practical men, whose lives have been devoted to the study of mental diseases, can be alone competent to pronounce on points coming strictly within their province. If a medical man prove incompetent, he defeats the ends of justice, and destroys the confidence that ought to be reposed in our profession. Unfortunately, physicians are too often induced from some motive to volunteer as experts, and to give evidence for the party in whose favor they are especially prejudiced. In their evidence they declare themselves able to fulfil the obligation of their oath, and, as in the case of lawyers, think they may accept and defend any cause. This is a great mistake, and the difference of the two vocations in this respect is striking. It is plain that an accused person must in all cases have legal advice. Whether guilty or innocent, every prisoner should be dealt fairly with according to law. Besides, the authority of an advocate and of a physician is not of the same kind. The pleadings of an advocate leave court and

juries free to appreciate the value of legal discussions; but the expert is pledged by oath to state nothing but the truth, and his opinions are accepted by juries as the accurate deductions of knowledge. The physician who plays the part of an advocate assumes a fearful responsibility, and may defeat the ends of justice.

The differences of opinion amongst physicians, and their mutual jealousy, has often been magnified, and is very generally deprecated by judges and lawyers; but we believe that such differences, especially in civil cases, may fairly exist. In certain suits of a criminal character the proper explanation of facts must be given in the form of theory. Reasoning upon the same facts, medical men, like others, may and will arrive at different conclusions. These conclusions, though different, are, however, honestly entertained, and are truly the legitimate deductions from the facts presented and interpreted by science. It would be manifestly wrong to insist that medical men, when on the stand, shall entertain the same views, and follow the same inductions, or that experts should act the part of judges. Medical witnesses are but *men*, and therefore liable to the infirmities of human nature.

In several countries of continental Europe (not in England, where the same proceedings exist as here), legal experts are called in courts either by the presiding judge, or by the parties, to give their opinion, which must be based, first, on a written report, and afterwards must be orally explained by the experts while on the stand. They are cross-examined, and subjected to subtle questionings, and are often unfairly handled by unscrupulous advocates. But from this fiery ordeal an honest expert comes free from any imputation of dishonesty. If this course were pursued in our courts it would be a decided improvement. There would then be much less of that lax and ill-digested evidence which too often dishonors medical testimony, and renders its influence nugatory.

## THE WEEK.

WE would remind those correspondents who so frequently write "private" or "confidential" letters, approving or condemning the course of the MEDICAL TIMES on various questions, that it is their duty to put their opinions in proper form for publication, and give them to the profession. A portion of this Journal is especially devoted to the discussion of miscellaneous medical subjects, current topics, etc., and it is the duty of every one who desires to advance his profession to contribute his influence through this channel. We are always grateful for advice honestly given as to the course this Journal should pursue, but we would much prefer that every medical man should advocate his own views. To give the greatest possible inducement to persons who do not wish to have their names appear in connexion with special subjects, we are willing to withhold the names.

WE have noticed the fact that the Enrolling Surgeons, with many honorable exceptions, were mere political doctors, and totally unfit for their position. The evidences of their incapacity begin to appear as the conscripts gather at their rendezvous. From authentic sources we learn that the most obvious diseases are passed over without notice. At Riker's Island, the rendezvous for the eastern part of the State of New York, are men suffering from cardiac

diseases, amaurosis, etc. It is stated that an order has been issued requiring the examination of these surgeons, as to their professional qualifications, by a surgeon of the regular army. We earnestly hope this is the case, and that this examination will be most thorough, otherwise the regiments in the field will be recruited with men who will go at once to the hospitals.

We learn that the SURGEON-GENERAL proposes to organize a reserve medical corps, and has invited the Governors of the States to make the selections, thirty being allowed to each State. When called into service they are to remain at least fifteen days, and are to receive pay, at the rate of \$100 per month. The plan is an excellent one, and destined to save a vast amount of suffering. We fear the pay is not such as to command the services of the very best men, but we hope they will be selected in each State. During the Crimean war the English authorities sent out a number of eminent civil surgeons, giving them the pay, we believe, of regimental surgeons, and continuing their pay for six months after their return, in order to remunerate them for loss of time and business. This reserve corps should be deemed most honorable by the profession at large, and every means be taken to make it effective.

## Reviews.

CLINICAL LECTURES ON DISEASES OF WOMEN. BY J. H. SIMPSON, M.D., F.R.S.E. Illustrated with One Hundred and Two Engravings on Wood. Philadelphia: BLANCHARD AND LEA. 1863. Pp. 510.

THE Lectures comprised in this volume first made their appearance in a London contemporary. The high reputation of the author, and the intrinsic importance of the subjects discussed, combined to render them very attractive to the medical reader. It is not too much to say that no European obstetrical writer is so much respected in this country as Professor Simpson. One of the most attractive features of his writings to an American physician is the thoroughly practical manner in which he treats each subject. Every point is elucidated with all the light which ancient or modern medicine can throw upon it, and the practical deductions are of rational application.

The work consists of thirty-eight lectures, embracing the principal disorders of the uterine organs. It does not lay claim to the character of a complete treatise on the diseases of females, but consists rather of a selection of subjects from this department of obstetrics. The volume opens with two chapters on vesico-vaginal fistulas. Professor Simpson prefers the iron to the silver wire on account of its efficiency and cheapness. He has also added several instruments to those employed by Sims and Bozeman in the treatment of this accident, as the hollow needle, splint of wire, etc. These improvements, to which the author evidently attaches much importance, have not met with favor by those familiar with the operation.

In the four following chapters the subject of cancer of the uterus and mammae is thoroughly considered. The author advocates the use of caustics in the treatment of this disease, and his own large experience furnishes unequivocal evidence in favor of these remedies. The caustic which he prefers is the dry or anhydrous sulphate of zinc made into a paste with strong sulphuric acid.

Two lectures are devoted to dysmenorrhoea and its treatment, and three to the various affections of the external genitals. Surgical fever is the subject of three lectures. Prof. Simpson takes occasion, on introducing this latter

subject, to rebuke surgeons for devoting so much thought and study to operations, and so little to the after-treatment of patients. The censure has, however, we believe, a limited application, and may be applied with equal force to obstetricians. The term Surgical Fever is inaptly chosen, when considered in the light of modern pathology. Fever is not a disease, but a symptom, and an inconsiderable one, of the textural changes that are taking place. If the practitioner regards the fever as the disease, as he is always liable to, he will most certainly overlook the general and local disease of which the fever is a symptom. If this form of fever is the result of blood-poison, it is better to call it toxæmia; or if it is due to coagula of blood deposited in one or more organs of the body, let it be called embolism, or be designated by some term that more nearly defines its proximate cause, than the obsolete word fever. This subject is one of great interest, and is treated by Prof. Simpson with his usual learning and ability. Passing over the three following lectures occupied with phlegmasia dolens, and the diseases of the coccyx, we have pelvic cellulitis treated of very fully. It is but recently, comparatively, that this obscure disease has been investigated, and Prof. Simpson has given the most satisfactory account of it that we have yet read. We must urge every student of uterine pathology to a careful perusal of these two lectures. Ovarian diseases and their treatment are discussed at length, and very elaborately. The author brings to bear upon this subject all his knowledge and experience, and the lectures devoted to the subject form a very complete monograph. Prof. Simpson is a rational advocate of ovariectomy, and the array of evidence which he brings forward to sustain his position must convince every unprejudiced mind.

The remaining eight lectures are devoted to subjects not less important than those already mentioned, but our space does not allow us even to enumerate them. In closing this volume we cannot forbear to express the most unequivocal opinion in favor of the work. Though the subjects selected are not numerous, they are all important to the practitioner, and are rich in practical facts.

## Correspondence.

### CALOMEL AND TARTAR EMETIC IN THE ARMY.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—Participating in that national sensibility which causes Americans to shrink from the touch of anything that may tarnish our national escutcheon, I was wounded by the circular of the Surgeon-General, dated May 4, 1863, which directed calomel and tartar emetic to be "struck" from the Medical Supply Table of the army; and this the more deeply, because, from the official eminence of its source, it might be regarded on the other hemisphere as a proof of our professional retrogression. When contemplated from another point of view, whence it may be looked at as an evidence of our individual and national imbecility, as shown in the readiness with which we bend to every breeze of fanaticism, whether freighted with medical or political heresy, it is then sufficiently humiliating, and should be met with a rebuke from every conservative member of the profession.

The efforts of the AMERICAN MEDICAL TIMES to justify this act, and to sustain and sanctify this error by its influence over its readers, have induced me to make this reply, not more to the circular than to the remarks of its editor in vindication of it.

I can find excuses for the action of this officer in the fact that he has seen but little of military service, and knows but little from personal observation of the diseases of soldiers; and also in the influence imputed to the National Sanitary Commission over the Chief of the Medical Bureau, to the head of which commission, he being clothed

with a sacerdotal pallium, we may, perhaps, justly impute a full share in the introduction of this species of medical fanaticism into the army of the United States.

For the gentleman who made a speech in defence of the circular before the *American Medical Association* at Chicago, an apology may be framed on the supposition that it was for his interest to do so. The official relation of the parties renders such a supposition quite probable, and would, in other courts, impeach his testimony.

Whilst in my own mind I can satisfactorily account for the action of the Surgeon-General, and apologize for the indiscretion of his friend in the Medical Association, I am entirely at a loss for an explanation of the course pursued by the editor of the *AMERICAN MEDICAL TIMES*, in bringing the influence of a journal heretofore aiming to be the exponent of the medical opinion of the country to the defence of an act offensive to that profession and insulting to the medical staff of the army. One reason given by the Surgeon-General for the erasure of calomel and tartar emetic from the army medical Supply Table, viz. that it was done in consequence of the teachings of "modern pathology," may deceive the readers of "Physiological Essays," but cannot mislead the students of historic medicine, who know how much therapeutics are indebted to empiricism, in its ancient signification, for the introduction of many important articles into the materia medica prior to the time of Galen, and who are also aware that the usages of that sect who tested the utility of remedies by experimentation still furnish the means by which judgments are formed of their claims to a position in our works on therapeutics.

The other reason, judging from its position the first in importance in the estimation of the Surgeon-General, rests upon reports of the Sanitary Inspectors, who have assumed that certain forms of humid gangrene seen among the troops in the United States service are the effects of the administration of mercury; and from thence the conclusion is arrived at, that the evils consequent upon its use more than counterbalance the good to be attained by its further toleration as a remedy, wherefore it is "struck" from the Supply Table of the medical department of the army. That neither of the parties advocating the enforcement of the order excluding calomel from the army hospitals should have uttered a doubt as to the nature or the cause of the gangrene alluded to, is a painfully significant fact, showing either ignorance of the medical history of the country or a disposition to stifle its teaching.

If the facts assumed by the Surgeon-General to be true are not to be called in question, they only prove what all right-minded people admit, the predominance of evil in this world everywhere. All intelligent members of the medical profession know that the mischiefs done in the name of medicine outweigh the good it has accomplished. And what we admit to be true of medicine, we believe to be also true of law and divinity; but no sane person would on that account for one moment think that doctors, lawyers, and clergymen, should be expelled from civil society, any more than intelligent practical physicians would advocate the expunction of the name of a medicinal agent of recognised utility from the supply table of a hospital, because it had been converted in the hands of ignorance into an instrument of destruction.

A very important question, pertinent to this discussion, seems not to have been asked, but if so, has not been answered; and that is—Have the cases of gangrene reported to the Medical Bureau been caused by the use of mercury, or the insalubrity of the season, or of the particular locality where they have occurred?

More than thirty years ago, whilst on duty at a military outpost, I had opportunities of seeing cases of humid gangrene, such as have been described under the names of gangrenous erosion of the cheeks, gangrenopsis, and by that acutest of observers, the late Dr. Parrish, of Philadelphia, as a "disease resembling the effects of mercury." This disease was recognised as the product of malaria, and was especially familiar to the physicians residing at Natchez on

the Mississippi. Cases of this kind occurred in 1836 and 1839 as far north as Detroit; since when, owing to a notable change in the diathesis of epidemic disease, none have been seen of which I have any knowledge north of the Ohio river. So far from having been caused by the misuse of calomel, it was most successfully treated by heroic doses of this ostracised article.

I think it now quite reasonable to suppose that the approach of a similar morbid cycle co-operating with the exposures of a hazardous service may have brought back the long lost cases of gangrenous erosion of the cheek. One reason for such a belief is derived from the condition of the sick found in the hospitals at Evansville, Ind., Paducah, Ken., Mound City and Cairo, Ill., and Memphis, Tennessee, where I saw in February last instead of the destructive marks of excessive mercurialization, what I considered evidences of too cautious a use of mercurials in the early stages of the diarrhoeas associated with or dependent upon hepatic torpor.

Yours, etc.,

Z. P.

DETROIT, July, 1868.

### VERATRUM VIRIDE IN DIAGNOSIS, AND AS A SUBSTITUTE FOR TARTAR EMETIC.

[To the Editor of the *AMERICAN MEDICAL TIMES*.]

SIR:—Permit me briefly to attest my sense of the very considerable value in diagnosis of *veratrum viride*, and especially so in the disease of the heart. For the purpose for which Prof. Percy proposes it, namely, to abate the comparative tumultuous relations of the different audible signs in disease of the heart, it seems indeed a very valuable means of sensibly diminishing the difficulties of a correct diagnosis. It seems, indeed, evident without the test of experiment which it has stood in his hands, that, in such cases, though a comparatively gross diagnosis may readily be made out without such means, yet a nicer analysis, and hence a more perfectly correct one, can only be made out where the nearly simultaneous occurrence of the different audible elements can be sensibly prolonged by *slackening* the rate of their occurrence. Thus, for example, if there happen to be regurgitation at either of the orifices of exit from insufficiency of the valves, while at the same time the valves themselves were in a strictly pathological state, the slowing of the motion of the heart would diminish to the minimum one condition of difficulty in the diagnosis, not indeed by actually repeating by an interval of time the two sets of signs, but by so *prolonging* both as to enable the observer to appreciate them more *sensibly* and certainly than when they occurred at a much more rapid rate.

Of course, apart from the *veratrum*, our present means of observation in enlargement, etc., of the heart, are quite adequate to a correct diagnosis; but in other cases it cannot fail to be of very positive service. A certain interval of time, during which the phenomenon takes place, is wholly indispensable to a *sensible* appreciation of its character. In studying visually the motions of the heart—in seeking to find, appreciably to a sensible analysis, the change of its form and other incidents of its motion—every experimental physiologist knows that his study is most successful when the rate of motion is *slowest*. Precisely the same is true of any analysis by the other senses, as the ear, or taste, etc. etc.

It is this view, that I trust no practitioner who has the opportunity will fail to try the *veratrum*.

It is common to say that the *veratrum* is an *unsafe* remedy, but in much use of it *throughout* no inconsiderable experience as a surgeon of volunteers, as a substitute for tartar emetic, I have never had occasion to feel that it was unsafe. And here it seems evident to me that the exclusion of *tartar emetic* from the army supply table was a *sound* act of the Surgeon-General, U.S.A., though I should have preferred, as no doubt he also would have preferred, that army surgeons had, without official ordinance, foregone the use of the

proscribed article, in favor of others equally efficacious, and far less liable to prove injurious. Such is the case with veratrum.

Respectfully, your obed't serv't,  
RUFUS KING BROWNE, M.D.

### VERATRUM VIRIDE

#### IN DIAGNOSIS OF DISEASES OF THE HEART.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—In No. ii., p. 18, of your present volume, you call attention to a lecture by PROFESSOR PERCY in the same number, and ask for criticisms on the new method there proposed for arriving at a correct diagnosis in diseases of the chest.

Feeling that you are but too just in your remarks (on the same page) on the indolence of the profession, I have ventured to add my mite to the literature, although it is a new occupation to me. Perhaps you are right in your remarks as to the indolence of the profession *in general*; but from my own observations I believe, if you will look more closely into the matter, you will find that the "indolence" is confined chiefly to the older members—that the younger members study diligently the medical literature, and are only too happy to read the well digested experience of their seniors. But, Sir, our seniors have all the hospital appointments, and almost every place of emolument or trust is filled by the older members of the profession—but in what journal can we juniors read the results of the treatment of the patients in the New York or Bellevue Hospitals?

For modesty's sake the junior members of the profession cannot write—for want of experience they should not write. But these objections will not apply to many of the older members, who are receiving the cream of both public and private practice, and are daily robbing their profession of the results of these great opportunities. There are many of these older members of our profession enjoying the privilege of a lucrative practice, who excuse themselves from giving their juniors the results of their experience because they assert they have not time. This is but a poor excuse, for out of their large income they could well afford to pay some younger brother for an hour's service as amanuensis daily.

But to return to my subject. Some months ago I heard Dr. Percy's remarks on the use of veratrum viride and other remedies as a means of diagnosis in diseases of the chest, and as I have given particular attention to the study of auscultation and percussion, I immediately put his method in practice, and was more than pleased. I was highly gratified with the great assistance this new suggestion gave to the auscultator. To one commencing the study of the abnormal sounds caused by diseased action of the heart and lungs, the previous preparation of the patient, as suggested by Dr. Percy, is of very great value, as by this means he can learn more in one examination than he would in twelve without it. To one who has made auscultation a close study, abnormal sounds are readily distinguished, but even with the most practised ear it is often exceedingly difficult to separate functional disturbance from organic lesion. The respirations are often very numerous, the heart's pulsations exceedingly fast; and, as Dr. Percy says, it is often almost impossible to arrive at any clear diagnosis, owing to the great amount of functional disturbance which masks the sounds given by organic disease. By this new treatment the respirations and pulsations are reduced in frequency, the functional disturbances are removed, and then "the mind can readily define and arrange the sounds that are communicated to the ear."

This "new means of diagnosis" does great credit to Dr. Percy, and is another evidence of his industry and research. As an individual I am deeply indebted to him for the suggestion.

The observations made in the latter part of Dr. Percy's lecture fully correspond with my own experience. I have found the tincture of veratrum viride in the drug stores per-

fectly unreliable. That made by Dr. Percy's prescription I have used in more than twenty cases, and found it uniform in its action.

By reference to a previous number of the *MEDICAL TIMES* I see that Dr. Percy read an essay at the *American Medical Association* on the subject of veratrum viride, for which he received the prize. Can you tell me where a copy of the Transactions of the Association are to be obtained?

QUÆRITOR.

[The volume of Transactions containing the Prize Essay is not yet published.—Ed.]

### TREATMENT OF CONTINUED FEVERS.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—Having read with considerable interest the report of the discussion on the treatment of continued fevers before the New York County Medical Society, more especially that portion relating to the administration of stimulants, and seeing no mention of the sesqui-carbonate of ammonia—an agent that has proved itself quite worthy at my hand—I venture a word:—Of between forty or fifty cases that came under my care in the fall of 1862, with one or two exceptions, it was the only stimulant employed, and of the number only one died, a widow lady, aged 65, which, I think, will compare quite favorably with the result of alcoholic stimulants, without any of the deleterious effects of the latter.

Most of the cases were very wild and delirious, thus evincing an excited state of the brain, and the fact of the sesqui-carbonate of ammonia possessing "power of increasing the action of the heart and arteries, without unduly exciting the brain," together with its diaphoretic properties, induced me to give it a trial, which I never have had cause to regret.

I wish also to allude to my mode of treating typhus and typhoid fevers in this connexion. When called at the outset of the attack I usually administered a few grains of the hydrargyrum cum creta, or pilulæ hydrargyri, followed in four or five hours by some ececoprotic remedy. If the patient is restless I give pulv. Doveri, and endeavor to equalize the circulation by means of sinapisms to feet and cold applications to head. I order the patient to be bathed every morning, and if the fever is very high, oftener. The room is to be kept well ventilated, and as near 65° of temperature as possible, together with a low regimen. On the second or third day I commence the administration of quinine, and give some gentle aperient to secure a movement of the bowels each day. As prostration becomes manifest I increase the quinine, and alternate it with the sesqui-carbonate of ammonia; bowels, if necessary, to be moved by injections; beef-tea *ad libitum*; patient to be sponged in place of bathed, and closely watched. For tympanitis, I administer spts. turpentine in some mucilage. For the Peyerian lesion, also prescribed same remedy, with marked benefit; and in one instance an excessive amount of blood was passed by the bowels, for which no other agent was used, but yielded to a few doses. In two or three instances, in which the vitality was very low, combined wine whey as a nutrient and stimulant, which was the exception above referred to.

W. A. W.

### DECOLORATION OF TINCTURE OF IODINE.

[To the Editor of the AMERICAN MEDICAL TIMES.]

"THE DECOLORATION OF TINCTURE OF IODINE BY THE URINE.—This property, lately discovered by M. Trousseau, is now attracting considerable attention at Paris, and numerous experiments are being performed, not only upon human urine, but upon that of animals. In the *Gaz. Hebdomadaire* of May 15th, experiments are described which were made upon the carnivora in the Paris Zoological Gardens. From these and other experiments upon herbivora it has been found that the decoloration is very strong with the urine of

carnivora, but quite absent when the tincture of iodine is tried with the urine of herbivora. In the case of the carnivora even alkaline urine effected the decoloration."

SIR:—The above is taken from the *London Lancet* of June 13th. It will be observed that it is claimed that M. Trousseau has made the discovery that iodine is deprived of its color by human urine. By referring to the *AMERICAN MEDICAL TIMES* of March 1, 1862, in my lecture upon iodine, after giving the various methods for detecting iodine in the urine, the following language is used: "but, as the urine itself has the property of decolorizing iodine," etc. Again, in my lecture of March 8, 1862, the following language is used: "The saliva, the nasal and pulmonary mucus, the blood, and the urine, when added to small quantities of iodide of starch, completely deprive it of color; the same decolorization also takes place if applied over an ulcer, and the sweat produces the same result." Dalton makes the same observation with regard to the gastric juice, and, if my memory does not betray me, he makes the same remark regarding the urine as the results of his experiments, as I, in the instances here mentioned, state as the results of my experiments. I do not deny the industry of our French medical brethren; I merely mean to assert, as I have so frequently done, that we are not behind them either in industry or invention. I must confess, Mr. Editor, that I have been not a little astonished to see how eagerly many of our medical journals seize upon discoveries or novelties that they receive from abroad, and neglect even to notice important discoveries made at home. We do not receive any too great praise abroad; it therefore behoves us to be watchful of what rightfully belongs to us. There is no novelty whatever in the facts stated by M. Trousseau; chemists have been for some time aware of them, and, as will be seen by reference to my lectures in your Journal, we have taught it to our students of materia medica.

I am, sir, yours truly,  
SAML. R. PERCY, M.D.

## Army Medical Intelligence.

### SPECIAL ORDERS, No. 281.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, June 26, 1868.

1. Leave of absence is granted the following named Officers on Surgeon's certificate of disability.  
Assistant-Surgeon D. C. Spence, 44th New York Vols., for twenty days.

2. Leave of absence is hereby granted to Medical Inspector G. W. Stipp, U.S.A., for the benefit of his health.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Asst. Adjutant-General.

### SPECIAL ORDERS, No. 277.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, June 23, 1868.

7. Surgeon W. H. Morton, 1st Minnesota Vols., having tendered his resignation, is hereby honorably discharged the service of the United States.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Asst. Adjutant-General.

### (CIRCULAR NO. 8.)

SURGEON-GENERAL'S OFFICE,  
WASHINGTON CITY, D. C., June 22, 1868.

I. It is provided, by act of Congress, that soldiers discharged from the Army of the United States within two years from the day of their enlistment by reason of wounds received in battle, shall be entitled to receive the same bounty as is granted to those discharged after two years' service.

Medical Officers are accordingly directed, in making out the papers of soldiers discharged under such circumstances, to endorse upon both the Final Statements and the Discharge the fact that the disability is by reason of wounds received in battle, and to sign such endorsement with their official signature.

II. Hereafter in giving Discharges to officers and soldiers on account of disability, their discharge papers must always state whether, at the time of

discharge, the officer or soldier was or was not physically suitable to enter or re-enlist in the Invalid Corps.

III. From and after the 30th instant, the envelopes of all official communications addressed to the heads of bureaux of the War Department having the franking privilege, must be marked "Official," with the signature thereto of the officer writing the communication. Postage stamps are not required on such communications.

WM. A. HAMMOND,  
Surgeon-General.

### (CIRCULAR NO. 10.)

SURGEON-GENERAL'S OFFICE,  
WASHINGTON CITY, D. C., July 16, 1868.

Surgeons in charge of U.S. Hospitals will forward to this Office, without delay, rolls of all Prisoners of War now inmates of their hospitals, or who may be hereafter received as such.

These rolls will contain the names, rank, company, and regiment of the prisoners, and the time and place of their capture.

WM. A. HAMMOND,  
Surgeon-General.

### ORDERS, CHANGES, &c.

Surgeon C. N. Chamberlain, U.S.V., has been ordered to take charge of the hospital of the 6th Army Corps, at Gettysburg, Penn.

Surgeon Henry Jones, U.S.V., is in charge of all the hospitals in and around Gettysburg, Penn.

Surgeon George Suckley, U.S.V., has been relieved from duty as Medical Director of the 11th Army Corps by Surgeon C. F. H. Campbell, U.S.V., late Medical Director of Kelly's command, at Harper's Ferry, and has reported to General Schenck, at Baltimore, Md., by whom he has been assigned to duty as Medical Director, U.S. Troops, in and around Baltimore, Md., relieving Surgeon C. W. Jones, U.S.V., who remains in charge of General Hospital at Newton University, Baltimore, Md.

Surgeon George H. Hubbard, U.S.V., Medical Director of South-Western Missouri, is absent, on leave, at Manchester, N. H.

The resignations of Surgeons Henry Bryant and E. H. Wevill have been accepted by the President, to date July 16, 1868. Both those gentlemen resign on account of ill health.

Surgeon D. W. Hand, U.S.V., has reported to the Medical Director at Fort Monroe, Va., on return from leave of absence.

Assistant-Surgeon Quile, 84th New York Vols., has relieved Surgeon C. F. M. Neilson, 6th Maryland Vols., in the duty of attending the sick of detachment, 45th Massachusetts Vols., stationed near Camp Bradford, Md.

Mr. Robinson, of Baltimore, having offered the use of the house No. 19, Camden st., Baltimore, to the men of Massachusetts regiments whose terms of service have expired, Surgeon Hason, of the National Hotel Hospital, has been ordered to provide the necessary medical attendance, and take the building under his sanitary control, issuing such articles as may be necessary for their comfort.

Acting Assistant-Surgeon E. E. Atkinson, U.S.A., has been assigned to duty at Newton University Hospital, Baltimore, Md.

By S. O. 186, Department of the Tennessee, Surgeon John Moore, U.S.A., has relieved Surgeon Madison Mills, U.S.A., as Medical Director of that Department. Surgeon Mills is awaiting orders at St. Louis, Mo.

Surgeon Bernard Beust, late in charge of General Hospital, Harper's Ferry, Md., has been assigned to duty in charge of the hospital, 11th Army Corps.

Surgeon D. J. McKibbin, U.S.V., is on duty at General Hospital, at Tullahoma, Tenn.

Surgeon W. S. Forbes, U.S.V., has been relieved as Medical Director, 18th Army Corps, by Surgeon George Hammond, U.S.A., and assigned to the charge of the hospital of that Corps, near Vicksburg, Miss.

Surgeon S. D. Carpenter, U.S.V., has been relieved from duty on the Hospital Transport "Continental," and assigned to the District of the Border as Medical Director.

Surgeon D. G. Brinton, U.S.V., has been appointed Surgeon-in-Chief, 2d Division, 11th Army Corps, Army of the Potomac.

Surgeon P. A. O'Connell, U.S.V., has been assigned to duty at Indianapolis, Ind., as Medical Inspector of the District of Indiana and Michigan.

Surgeon Francis Bacon, U.S.V., has been assigned to duty in charge of the St. Louis General Hospital, New Orleans, La.

Surgeon J. W. Lawton, U.S.V., has been placed in temporary charge of the General Hospital at Gallipolis, O.

Surgeon John H. Sullivan, U.S.V., is in charge of General Hospital near Camp Curtin, Harrisburg, Penn.

Surgeon J. D. Strawbridge, U.S.V., is on a tour through the General Hospitals and Convalescent Camps at Milliken's Bend and Young's Point, La., for the purpose of examining and giving certificates of disability in all such cases as he may deem necessary.

Surgeon J. G. F. Holston, U.S.V., has reported to General Asboth, at Columbus, Ky., for duty.

Acting Assistant-Surgeon Elliott, U.S.A., has reported for duty at Annapolis Junction, Md.

Assistant-Surgeon C. W. Moore, 18th Pennsylvania Cavalry, has been assigned to temporary duty at West's Buildings Hospital, Baltimore, Md.

Assistant-Surgeons J. B. Bellangee, Philip Hawley, A. M. Wilder, J. B. Morrison, S. J. W. Minter, J. W. Lawton, L. W. Read, and John L. Teed, have been promoted Surgeons of Volunteers.

Dra. J. K. Banduy and W. B. Trull, Acting Assistant-Surgeons, U.S.A., G. McC. Miller, of Delaware, and J. H. Sullivan, of New York, have been appointed Assistant-Surgeons of Volunteers.

Surgeon David P. Smith, U.S.V., has returned from temporary duty with the Army of the Potomac, and resumed charge of the General Hospital at Fairfax Seminary, Va.

The Medical Director's (Surgeon Buckmaster) Office of the District of the Frontier, has been removed from Fort Leavenworth to Fort Scott, Kan.

Surgeon J. J. De Lamater, U.S.V., in addition to his duties as Chief-Surgeon of Contrabands at Newbern, N. C., has assumed the duties of Chief Medical Officer of General Weid's Brigade.

Surgeon A. B. Hason, U.S.A., has been relieved from duty in charge of the General Hospital, Camden street, Baltimore, Md.

Surgeon J. B. Bellangee has been assigned to duty at the Stanley Hospital, Newbern, N. C.

## Original Lectures.

DISEASES OF THE RESPIRATORY ORGANS  
IN CHILDREN.BEING A COURSE OF LECTURES PREPARED FOR DELIVERY DURING THE SPRING  
SESSION OF 1862 IN THE COLLEGE OF PHYSICIANS AND SURGEONS, N. Y.

BY THE LATE

C. VAN ALLEN ANDERSON, M.D.,

PHYSICIAN TO CHILDREN'S DEPARTMENT, DEMILT DISPENSARY, N. Y.

## LECTURE V.—PART I.

## DIPHTHERIA, ITS PATHOLOGY AND TREATMENT.

GENTLEMEN:—The interest attached to the diphtheritic form of croup would justify me in occupying more of your time in its description, were I not aware that you have recently listened to a masterly series of remarks upon it by Dr. Clark. I cannot pretend to bring so vividly before you the various phenomena connected with its progress and termination; yet I trust that the variety of subjects which have engaged your attention during the winter course, will furnish me with a sufficient excuse for saying a very few words upon its leading characteristics.

It seems to me that diphtheria is a blood disease, just as much as typhoid fever is. The condition of the pulse, the pallor of the skin, the rapid prostration, and the fact that the pseudo-membranous effusion is not confined to mucous surfaces, but is also discovered on the denuded cuticle, all point to this conclusion. But it is a disease marked by the deposition of false membrane; and the presence of this morbid secretion in the air-passages—in other words, the diphtheritic form of croup—is what we are called upon at present to consider.

It commences either very mildly, or else with well pronounced symptoms. In the former case, at the beginning there is slight sore-throat, hardly any fever, and the appetite and strength are retained. In other instances the fever is decided, with aching of the limbs, general uneasiness, heat of the surface, and thirst; but before long there is a degree of dysphagia—the child complains somewhat of trouble in swallowing, especially substances which are of small bulk. Pain in the pharynx is also a symptom which is observed in the majority of cases, but which is not invariably present. In some of Bretonneau's cases it was very considerable, and accompanied with a sense of heat and local soreness; in others it was entirely wanting, and making its appearance at any stage of the disorder. A change in the sound of the voice is very common—usually the child is hoarse, and can do no more than whisper; or else its articulation has a peculiarly obscure and nasal character. There is almost always a slight hawking kind of cough. Being led by these symptoms to inspect the condition of the throat, we discover at first some redness of the pharynx, uvula, and pillars of the fauces, which phenomena are soon followed by others more distinctive and characteristic. One or both tonsils become tumefied—Bretonneau says much more frequently one than both—and some white or yellowish-white spots are seen on the surface of the swollen organ. "These spots, which are more or less numerous, are due to the production of a pellicular, lichenoid exudation, which falls off spontaneously, and is very easily detached. There is considerable enlargement of the lymphatic glands of the sides of the neck. From the beginning this enlargement is marked by its disproportion with the extent and intensity of the inflammation of the mucous surfaces; the deglutition is not very painful, and it becomes less and less so; the tumefaction of the tonsil, which has been first affected, augments; a redness of a very variable tint circumscribes the exudation, which is sometimes rapidly extended to the velum palati, the

uvula, the pharynx, and the tonsil of the opposite side."\* This terse description of Bretonneau's admirably paints the condition of the parts about the throat in the early period of the disorder. The patch of false membrane on the tonsil spreads gradually over the neighboring parts, and increases likewise in thickness; it finally lines the pharynx, then invades the air passages, seizes on the larynx, and gives rise to croup.

The nature of this diphtheritic membrane has been carefully studied by some French physicians. They consider that its evolution may be divided into three periods, viz. 1st. The period of development; 2d. The period of complete formation; and 3d. The period of decline. The membrane begins to be developed by the effusion of a sero-mucous, transparent, and ropy liquid, which covers the affected part. It is difficult to discover both on account of the deeply seated organs upon which it appears, and also on account of the rapidity with which it changes its character in order to assume that of false membrane. At various portions of its surface there are quickly seen little spots, less transparent, assuming a yellowish tint, which, though at first isolated from each other, and imperfectly circumscribed by the fluid in which they are formed, soon unite and coalesce with one another. By this kind of coagulation—if I may use the word—a very delicate and slightly adhesive substance is created, which is, in fact, the false membrane in the first stage of its formation.

At the period of maturity the deep surface of this rudimentary membrane is still bathed by the serous matter which continues to be effused from the disordered mucous membrane. This serous fluid, lying between the mucous tissue and the false membrane, gradually becomes incorporated with the latter, increasing its thickness and density. By these means, there is formed in a short time a concretion of a yellowish color, with an appreciable thickness, considerable cohesive power, and strong attachment to the underlying parts. It is at this point impossible to remove it without producing bleeding from the superficial vessels, the membrane being closely adherent to the vascular tissues. In certain cases, when thus matured, it seems only to extend over the surrounding parts by degrees, and is limited by a rose-red border; in others one layer is continually produced below another which it raises, and is raised again itself in turn by a third, so that there is finally a stratified arrangement of the whole concretion; while in others the false membrane is soaked and softened in the serous fluid, putrefies, assuming a greyish or blackish color, and exhaling an exceedingly fetid odor.

When the diphtheritic pseudo-membrane has acquired its entire development, the period of decline begins. It ceases to spread, and preserves its appearance unchanged for a season of very variable duration, with the exception that it becomes thickened at its edges. A process of resorption then takes place; it becomes less adherent at its outer border; its diameter gradually contracts, the points last formed being the first to disappear. It never vanishes all at once, like an eschar, leaving behind it a cicatrized surface, but, on the contrary, undergoes a continuous physiological action, being removed by the absorbents of the part which it has covered. I need not detail to you the phenomena produced by the presence of this false membrane in the larynx, because they are essentially the same as those of true croup. The general symptoms are more typhoid in character, the cough is perhaps not so brassy, and the spasmodic condition less marked; but you will readily recognise the disease by its peculiar signs, and will be in no danger of mistaking it for cynanche trachealis. In fact, should you confound the preliminary stages of the two affections, which is a difficult thing to do, an inspection of the fauces will reveal to you the true nature of the complaint, for you do not have in croup the yellowish membranous patch of diphtheria.

\* Bretonneau's Third Memoir.



The pathognomonic symptoms of croup are the hoarse voice, the brassy cough, and the hissing inspiration, accompanied throughout their course by more or less fever. This combination you will find in no other disease; yet there are several which are often confounded with it, in spite of phenomena which are equally peculiar to them, and equally distinct in their manifestation.

I.—Croup may be confounded with a disease to which I am going soon to ask your attention, called spasm of the glottis; but you will learn that the latter is entirely convulsive in its nature, sudden in its access, unaccompanied by cough, wanting the inflammatory symptoms of croup, and differing greatly in its post-mortem appearances.

II.—Croup may be confounded with simple laryngitis; but laryngitis is so extremely rare in children that I should doubt whether any of you will ever see an instance of it before puberty. The voice and cough are rough and hoarse, but have not the metallic sound which is heard in cynanche trachealis. There are fever and expectoration, but no such paroxysms of dyspnoea as I have just described to you in detailing the symptoms of croup.

III.—Croup ought not to be mistaken for diphtheria, or diphtheria for croup. The preliminary stage of the two diseases is different, one being generally sthenic, and the other asthenic. Moreover, diphtheria is supposed to be contagious in its nature, while croup, though frequently epidemic, is never contagious.

IV.—The symptoms excited by the presence of foreign bodies in the trachea closely simulate those of croup, but a careful inquiry into the history of the case, and the manifest absence of inflammatory pyrexia, will make your diagnosis clear.

V.—Lastly, I trust that none of you will mistake whooping-cough for croup, as has sometimes been done. The signs of the two diseases are so entirely distinct—as you will discover when we come to the consideration of pertussis—that at present I need say nothing more about it.

The diagnosis of cynanche trachealis in all cases is doubtful, and in the majority bad. Although the probabilities are against recovery, in estimating these we must accept as elements of our calculation the complications and extent of the disease, the period at which the child comes under treatment, the intensity of the symptoms, the degree of fever, and the strength of the constitution. In a case of uncomplicated croup, particularly if the symptoms be nervous rather than inflammatory, I believe that we may hope by prompt and timely measures to save our patient; if bronchitis supervene, the chances of recovery are greatly diminished; if it advance to pneumonia, they are very slight indeed. Diphtheritic croup, as you know, is one of our most rapidly fatal disorders, and the instances from recovery from the croup that complicates measles and scarlatina are few and far between.

The treatment of cynanche trachealis is what the treatment of all disorders beyond the power of medicine is—traditional in its nature, uncertain in its character, varying not only from age to age, and from one period to another, but changing also with each individual who encounters the complaint. We all admit, as we do in the treatment of typhoid fever, that our remedies are utterly incompetent to meet and baffle the disease, but the cause of death seems so mechanical, and so easy to overcome, that every one of us, undeterred by the failure of his predecessors, advances full of confidence in some new agent which we have discovered, and which in our eyes—but unfortunately only in our eyes—justifies by its success the trust that we place in it. The history of the treatment of croup is therefore in most cases the history of means that have been tried, and have failed. Yet there are certain indications of cure that demand that our efforts should be directed to the attainment of particular ends. These indications are, 1st. In the early stage to modify the inflammatory action, and to prevent the accumulation of the pseudo-membrane in the air passages. 2d. When we cannot do this, to try and bring about the

dislodgment of the albuminous concretion. 3d. To mitigate the spasmodic elements of the disorder. 4th. To support the powers of life in the latter stages, so as to enable the system to rally from the disease.

To effect these objects various plans of treatment have been proposed by different physicians. Dr. Watson says that "the three remedies that most require consideration, are blood-letting, tartarized antimony, and calomel." He advises the abstraction of blood by venesection or cupping in older children, and by leeches in younger ones, particularly if the patient be strong and plethoric, and seen at the outset of the disease. The bleeding is to be followed up by the administration of tartar emetic in doses sufficient to vomit; because he regards that drug as having great power over the inflammation of mucous tissues, and because children may readily be induced to take it from its almost tasteless character. Frequent emesis, he thinks, sometimes puts off the disease; but if no ground be gained after two or three repetitions of the emetic treatment, it is to be abandoned, and the administration of calomel resorted to.

Dr. West insists particularly on the necessity of treatment in the very earliest stage of the disease. Even in cases where the attack is merely apprehended, the child is at once to be placed in a warm bath, be confined to bed and a light diet, and brought under the influence of an emetic of antimony and ipecacuanha, to be followed by a mild saline aperient. But a more energetic plan is to be followed if the symptoms attain their full development before the patient is brought to your notice. Large bleedings and the free administration of tartar emetic are the means which he uses; and if after one free evacuation of blood, and the administration of antimony for five or six hours, the croupal symptoms are not ameliorated, local depletion, and in some cases another venesection, are demanded; while, if the disease yield to the depletion and the antimony, they are discontinued, and calomel is given in sufficient doses. But the third stage, Dr. West thinks, should be treated in a totally different manner. The child is to be aroused from the state of collapse into which it begins to sink by a hot mustard-bath, the antimony is to be stopped, emetics of the sulphate of copper are to be used, as a mixture of decoction of senega, carbonate of ammonia, and tincture of squills. He prefers the sulphate of copper, because it is an emetic of great power, and perhaps prevents the accumulation of false membrane in the larynx; while the senega, ammonia, and squills, form a valuable stimulating expectorant. Dr. Churchill advises a plan of treatment, which in its general features is the same as Dr. West's. Our success, in his opinion, depends upon seeing the child early—at the very beginning of the attack if possible. An emetic of ipecacuanha or of antimony is to be given at once, and nausea is to be kept up for some time. If this fails in changing the character of the disease, then we are "to take as much blood as will make a decided impression, and to repeat the bleeding if necessary." In the second stage we are to rely on the same remedies, especially if they have not been before used; though we are to remember that tartar emetic sometimes has a very depressing effect, utter and irrevocable prostration, and death, having resulted from its employment; in such cases squills or ipecac may be substituted for it. Calomel is also to be administered, though not to the exclusion of the emetic; the mercurial influence may be obtained by the inunction of ung. hydrargyri; and the action of an occasional brisk, warm cathartic will prove beneficial. Dr. Churchill has also seen good done by the counter-irritant action of blisters and mustard poultices, particularly where there was any tendency towards bronchial complications. If the disease advance to the third stage, he thinks that it will be of little use to carry the depletion further, as the result would be loss of the patient's strength. Expectorants are to be administered, and vomiting is to be occasionally excited. The exhibition of antispasmodics, such as camphor, musk, assafetida, etc., tepid baths, stimulants,

and the inhalation of the vapor of ammonia, camphor, or ether, with aqueous vapor, he regards as useful.

These three writers, then, gentlemen, who are certainly authorities, agree, you will observe, in recommending the use of powerful antiphlogistics, viz. bleeding, tartar emetic, and calomel. Several other remedies have been mentioned by other physicians, which perhaps are worthy of attention. The celebrated Dr. Graves says in the second volume of his clinical medicine:—"In the eighth volume of the Dublin Medical Journal, I published an account of a method of treating this disease, which was proposed by Dr. Lehman, of Torgau. This method has the advantage of being simple, efficacious, and easily applied, and its good effects are not productive of any injury to the constitution. The proper time for the application of this method is at the commencement of the disorder, when, as is usually the case, the child is awakened suddenly during the night by its invasion; no time should be lost when we observe that the breathing is anxious, disturbed, and attended with the well known croupy sound, and a cough of a varying character, etc." The disease may be arrested in its progress by the immediate application of hot water in the following manner: a sponge about the size of a large fist, dipped in water as hot as the hand can bear, must be gently squeezed half dry, and immediately applied beneath the little sufferer's chin over the larynx and wind-pipe; when the sponge has been thus held for a few minutes in contact with the skin, its temperature begins to sink, and it requires to be dipped again in hot water. It is better to have a second sponge ready, so that they may be applied alternately. A perseverance in this plan during from ten to twenty minutes produces a vivid redness of the skin over the whole front of the throat, just as if a strong sinapism had been applied; this redness must not be attended or followed by vesication. In the meantime the whole system feels the influence of this topical treatment; a warm perspiration breaks out, which must be encouraged by warm drinks, as whey, weak tea, etc., and a notable diminution in the frequency and tone of the cough, while the hoarseness almost disappears, and the rough ringing tone of voice subsides along with the dyspnoea and restlessness; in short, all danger is over, and the little patient falls asleep, and awakens in the morning without any appearance of having recently suffered from so dangerous an attack. Since then," continues Dr. Graves, "I have repeatedly treated the disease on this plan, and with the most uniform success. It is, however, only applicable to those cases which are seen at the very outset of the disease, and you must remember, also, that I do not propose it to the total exclusion of bleeding and tartar emetic, which must be used in more aggravated cases, or in those which are not seen until the disease is somewhat advanced." Dr. Grahl, applying the same remedy in a different part of the body, recommended the use of warm baths in croup. According to him they are indicated at the beginning of the second stage; the arms of the patient are to be placed in a vessel deep enough to admit them at least a hand's breadth above the elbow-joint, and filled with water as hot as it can be borne; a cloth also is thrown over the head of the patient, which is so arranged as to allow him to breathe the vapor for a quarter of an hour at short intervals. This treatment produced, in Dr. Grahl's hands, the expectoration of the exuded lymph, but I am not aware whether any one else has tried it. Many physicians prefer the use of sulphate of copper, as an emetic, to the tartrate of antimony and potassa. Dr. Schwabe commences by applying four to twelve leeches to the larynx, and then orders from one to four grains of the salt to be given every hour or every half hour according to the urgency of the symptoms. Others again find equal advantages in the sulphate of zinc, in the turpeth mineral, or yellow sulphate of mercury, in lobelia inflata, in sanguinaria canadensis, and in the decoction of senega. Dr. Horace Green, of this city, applies a solution of nitrate of silver to the interior of the larynx. Dr. Meigs, of Philadelphia, con-

fides in the use of alum. M. Ozanam had great success with bromide of potassium given in doses of from one to ten grains a day, while Mr. Hird puts his trust in ten or fifteen minims of liquor potassæ every four hours; and one gentleman of this city cures all his cases of croup by saturating the system with muriate of ammonia. I might extend this list indefinitely did either your time or my own allow it. But, gentlemen, I do not believe that any of these remedies possess one-tenth part of the value claimed for them; in fact, the majority, while highly praised by their original proposers, have signally failed in the hands of others; and I also beg to protest emphatically against treating a case of croup by bleeding and tartar emetic combined. The necessity of abstracting blood from the arm, or by means of leeches, is what I cannot well understand; for it seems to me that the blood is quite as much one of the tissues as the muscles are, and that, therefore, we have no right to remove it, that it will all be required in the course of the disease to support the patient, and that our experience of the effects of venesection does not by any means justify us in resorting to it. The general reluctance at the present day to use the lancet appears also to support this view. We no longer bleed in acute inflammations; we have totally abandoned the practice in pneumonia: Why should we continue it in croup? Croup also is a disease that results finally in complete exhaustion, and it occurs, at least in our cities, in debilitated children. Now, I would ask you whether in a child of feeble constitution, attacked by a malady that advances to profound prostration of the vital energies—in such a case, I say, if you employ so powerful a depressant as tartar emetic, do you not add moral insult to therapeutical injury? Our aim should be rather to husband our means. Since tartar emetic has no specific action upon the mucous surface to prevent the effusion of false membrane, since the only antispasmodic power it possesses results from the violent shock it produces, and since its other indications can be fulfilled by equally active, but less dangerous means, its use, except in rare cases, should be discarded. The first consideration in the treatment of croup is its prevention. When we have reason to fear its appearance in a family, or when it has already seized on one child, and we wish to save the others from it, it is our duty, as far as we can, to remove or neutralize all predisposing or exciting causes. From such climates and localities as have been mentioned as favorable to the disorder, the children are to be taken away; or, if this be impossible, the constitution is to be put in good order by suitable clothing, proper food, and the other hygienic means at our command, while the first symptoms are to be carefully watched for, and treated immediately on their appearance.

MM. DECHAMBRE and DELPECH have still further investigated the subject of the decoloration of tincture of iodine by urine. They have already shown that this test, proposed by Trousseau as a test for sugar in the urine, is of no value. The decolorization, according to them, depends upon the presence of saline matter in the urine, and particularly of uric acid and the urates. Lately, they have operated with the alkaline urine of carnivorous and herbivorous animals; and they find that the decolorizing power of the urine of carnivorous animals is very great, and that of herbivorous animals scarcely appreciable.—*Brit. Jour.*

M. BARRAL has presented to the Academy of Sciences some remarks of much interest concerning the crust of bread and the gluten contained in it. He had recently shown that, when equally dried, the crust of bread is more highly azotised than the crumb; and he also showed that the crust was more soluble than the crumb in water.—*Brit. Jour.*

PROFESSOR SCANZONI has gone to St. Petersburg, to attend the Empress of Russia during her confinement.—*Brit. Jour.*

## Original Communications.

### DRAINAGE FROM WOUNDS

#### AFTER EXSECTIONS.

By S. I. RADCLIFFE, M.D., ACT. ASSIST. SURG. U.S.A.,

U.S. GENERAL HOSPITAL, ANNAPOLIS, MD.

THE article on "Exsection of Head of Femur," with the gratifying result from the use of "drainage tubes" in the AMERICAN MEDICAL TIMES, for July 11, by Surgeon David P. Smith, U.S.V., deserves consideration.

Every item that may be added to facilitate the reparation of parts, or fill up the often great solution of continuity, made necessary by exsections or other similar operations, will tend much to decide the problem in this department of conservative surgery, whether or not they are at all times admissible, *i. e.* whether we may substitute them in all cases of compound, comminuted fractures, especially of the joints, for amputation.

It is not our intention now to enter into a discussion in regard to resections or exsections, or their relative value, but to say a few words on the manner of after-treatment. Almost every surgeon has his peculiar mode of operating—whether it is the straight, the crucial, the X, the H, the T, the L, the V, the elliptical, or other incision. (We will not say whether this or that is adapted to the greater number of cases.) And every surgeon has his particular mode of uniting the incisions, his particular suture, and mode of treatment. Surgeon Smith's plan of drainage is very excellent, and it may answer fully as well for other descriptions of suppurating wounds or abscesses. It is often a source of great annoyance that the surfaces of wounds close over, encircling large cavities inclosing abnormal discharges, which are in many cases the cause of extensive sloughing and great destruction of surrounding tissues. The use of such drainage tubes, it seems to me, would facilitate very much the discharge, act as a tent, and render extensive incisions to empty such accumulations unnecessary.

It seems, however, there may be some objections urged against their use. We have not used them, and of course cannot speak from experience; all we may say, is, therefore, entirely suggestive. We think they may be an inconvenience, if not an annoyance or direct pain to the patient, by infringing upon parts made quite sensitive by the operation, probably upon nervous filaments or denuded nerves; or they may be a superadded irritant to the wound, may act as any foreign body, and may result in active inflammation. They may be inconvenient and troublesome to the surgeon or attendant by the difficulty in retaining them in position, by constant removal and readjustment, by their tendency to become foul, and from the incompleteness of the drainage.

We think there is a better method, and one which we have seen, and employed in this hospital with great advantage—one, we think, less liable to objection, and will meet all necessary indications—that is, by suction, or by withdrawing the discharge with a syringe. This plan was introduced in this hospital by Surgeon B. A. Vanderkeift, U.S.V., in charge; and from its entire eligibility and fitness, and the singular completeness with which it operates, I am induced to regard it *par excellence*, especially in resections where the part resected is required to remain immovable or in a quiescent state for a considerable period after operation, in order to form strong union or firm adhesion of the contiguous parts. The nozzle of the instrument may be introduced at any orifice of incision or in the original wound, and its liquid or semi-liquid contents drained, and at once and completely. Its performance is so simple that any assistant or attendant may use it with the greatest ease, subjecting the patient to no pain, and causing no disturbance of function or healthy action in the part, or

hemorrhage; and so convenient that it is attainable at all times, and may be always ready for use. Indeed, it is so simple that we need not attempt an explanation of it. It requires no directions, as any one at all conversant with the instrument can use it with the greatest facility. A syringe of almost any size or kind may be used, so the aperture in the nozzle is sufficiently large to admit the drainings; one of metal is better than one of glass, as it is not so liable to be broken. The piston should be well fitted, work smoothly and evenly, and it should be kept clean by occasionally rinsing with clean water.

Another item in the treatment of exsections or resections we would mention here, and that is the dressing. It is a common, I might say a constant and universal practice to employ simple or cold-water applications to all wounds, whether incised, penetrating, gunshot, or others, and yet we have seen the happiest results from *dry* dressings. After operations either in resections or other surgical operations, no application is made, but simply a piece of dry muslin laid over the wound, and, if in warm weather, a little spt. camphor sprinkled over the cloth to keep the flies, which are apt to be pests about suppurating wounds, from accumulating on it. The lint is laid in loosely packed oakum, this simple dressing applied, and the discharge drawn off with a syringe. We do not argue the value of this dry dressing, but believe it resides principally in its negatively "assisting the progress of disease," in contradistinction to Prof. Bennett's theory of positive "assisting the progress of disease;" or rather not lowering the vital powers of the part, as is too apt to be done by continued cold applications; and the temperature is more likely to be equable than can possibly be the case, unless the cold be applied regularly and thermometrically. Of course we say nothing pertaining to stimulating and nourishing diet—they are inseparable.

### MEDIAN LITHOTOMY.

By J. GRAFTON, M.D.

WATERTOWN, JEFFERSON CO.

On June 8, 1863, assisted by Drs. Lowe, Hannahs, Hale, Clark, Kinney, Webb, and Sill, I removed by median incision from the bladder of Mr. Totman, of Adams, *ætat.* 69, eight calculi, varying in diameter from the size of a butter-nut or chestnut to that of an almond. The steps of the operation were precisely similar to those which I described in the case of Mr. Allen, reported in your Journal, October 12, 1861, page 231, the length of the incision in this case being precisely one inch and a quarter, which gave ample room for the use of Tiemann's improved forceps.

The chief points worthy of comment in this operation were:—

1. A remarkably deep perineum, the patient being an extremely thick-set muscular man.

2. An enlarged prostate, the middle lobe projecting upwards into the bladder, preventing the use of the scoop which I had predetermined to use, believing the calculi to be small, from the fact that about a year previously the patient had undergone the operation of lithotripsy in a distant city.

3. In consequence of this enlargement of the prostate, and the great depth of the perineum, it was necessary to bury a pair of forceps, nine inches long, up to their rings—and then only by raising the handle towards the pubic symphysis, and depressing the blades towards the rectum, could I succeed in touching the calculi, which lay behind this promontory of the prostate in a sort of pouch entirely out of reach of the finger, as in my former case, rendering it necessary, before I could seize them, to introduce the *fore and middle* fingers of my left hand into the rectum to elevate this pouch towards the jaws of the forceps.

4. The necessity of thoroughly exploring the bladder, and being provided, in addition to the ordinary instruments, with a *curved* and straight sound; for in this case the last calculus removed occupied a different position from the rest,

appearing to lie above the symphysis, perhaps held there by the contracted condition of the empty bladder, or possibly partially encysted there, as it was not dislodged without some force, and then only on making firm downward pressure with the hand from above.

The subsequent progress of the case has been remarkably satisfactory. The patient left his bed in a few days, and on the fourteenth day the small wound had entirely healed.

My experience of this operation is entirely too limited to urge its superiority over the lateral. I would only say that the objection urged against it, "*want of room*," would not induce me to abandon it; for this reason, that, in case of an unusually large stone which I could not break, I should not hesitate to carry my incision downwards into the rectum, freely dividing its anterior wall.

The median incision is admirably adapted for small calculi; and in the case of large ones I believe that, in the majority of instances, they could be readily broken, and removed by Tiemann's improved sequester forceps, which have lately rendered me efficient service in removing a calculus weighing one ounce and eighteen grains from the bladder of a lady in our village a few weeks since. They are so constructed as to be readily passed through the dilated urethra, and have sufficient strength to crush a tolerably hard stone.

### SCURVY IN THE NAVY.

By R. S. FARQUHARSON, M.D.,

PASSED ASSIST. SURGEON, U.S.N.

(Continued from page 87.)

THOUGH somewhat apart from the present subject, it may be mentioned, *en passant*, that the quantity of solid food in our ration is too great, that very few men can eat it, and that the health of our ships' companies—rarely exposed to extreme cold, and leading a life of comparative inactivity (inactive in comparison to that of their brethren of the merchant service)—would be better upon a smaller allowance of solid food. The latter inference is supported by the good health of British sailors, and even they rarely consume their whole ration, hearty feeders as they are esteemed. However, to return to the subject, the solid part of the rations is very much the same, though ours surpasses the other in variety as well as quantity. Upon looking over the list of articles in our ration as they may be issued during one week at sea, viz. beef, pork, bread, flour, beans, peas, rice, butter, cheese, sugar, tea, coffee or cocoa, raisins or other dried fruit, molasses, vinegar, pickles, and whiskey, we are surprised to find that but three of these articles (vinegar, dried fruit, and molasses) have any pretensions to antiscorbutic virtue, and these of the slightest kind. Now, in what consists the boasted excellence of the ration of the British navy? In what does it surpass ours? Why can it be said truly in regard to the former, "That the health of crews, long afloat, and exposed to every variety of external condition, appears to be preserved to the full as well as that of persons subject to similar vicissitudes on shore?" (Carpenter's Hum. Phys., p. 342, Am. Ed.)

On the other hand, Why have we, with a feeling somewhat akin to shame, to remember the fact, that during the recent war with Mexico two of our vessels were almost or quite disabled by a disease now absolutely unknown in the British navy? The answer to this is to be found in the important fact, that on board H.B.M.'s ships an ounce of lime-juice is served out daily to each man, beginning two weeks after the issue of the last fresh ration, and the issue of this indispensable article can at any time be made more frequent or larger at the option of the surgeon. But it may be asked, What becomes of the allowance of lime-juice and of crystallized citric acid granted in the medical outfit of every vessel going to sea? The quantity of the former is so small as to show that it is intended to be used as a remedy, and not as a prophylactic (though in this case the old adage might be reversed, and a pound of prevention found to be better and cheaper than an ounce of cure). In

regard to the citric acid, it will hereafter appear as highly probable, that it possesses little or no antiscorbutic power, certainly not more than that of vinegar.

**Pathology.**—The old notion of the blood in scurvy being in a dissolved state, or in a condition resembling that of blood defibrinated by art, should have been laid aside when crude notions gave way to the accurate analyses and strict investigations of more modern times in the comparatively few cases of scurvy that now occur. But such is not the case; for not only do writers of excellent authority, when treating of other topics, incidentally allude to such a condition of the blood in scurvy (vide Tweedie's Liby. of Pract. Med., article Cachæmia, p. 59), but a recent author on the subject of scurvy actually assumes this partially defibrinated state, or a lack of the "*proteinous elements*," as the basis of his view of the pathology of the disease, and in consequence gives "*starch and lime-juice*."

That there is no dissolution of the red globules in the serum, nor any lack of the albuminous or proteinous elements, is shown from the statements of Dr. Budd (article Scurvy, Tweedie's Library of Pract. Med.):—1st. That the intermuscular and other effusions so common in scurvy, never, unless superficial, consist of blood, but in all cases of plastic lymph, often organized and connected to the adjacent tissues by blood-vessels. 2d. That in cases where blood has been drawn (for purposes of experiment), as complete a separation into serum and clot as is observed in other ordinary cases. 3d. The analysis of the blood in three cases of well marked scurvy, showing a large increase of both fibrin and albumen. This analysis, when compared with that of the blood of a healthy sailor, gives the following result:—

	Water.	Hæmat.	Fibrin.	Albumen.	Salts.
Average of three cases scurvy.	848.0	60.3	5.6	78.3	10.6
Normal case .....	788.8	138.7	3.3	67.3	6.8
Giving for scurvy .....	+64.2	-78.5	+2.3	+11.0	+3.8

Admitting fully the fallacy of all direct deductions from chemical analysis in regard to either pathology or therapeutics, even of what are termed blood diseases, the above comparison, showing, as it does, how scorbutic blood contains an excess of all the ingredients except hæmatosin, may serve as a guide in comparing scurvy with other more common diseases whose pathology is better understood. Using, then, the above formula of the blood in scurvy, and comparing it with others, the results of analysis of the blood in diseases in which there is a profound alteration of that fluid, we arrive at the singular, and, it may be, important conclusion, that in its blood changes scurvy more nearly resembles chronic rheumatism than any other disease. In both there is the same anæmia from the diminution of the red globules and an increase of the watery element; in both, the same increase of fibrin; alike, again, in both affections having a "*peculiar inflammation*," with plastic effusion, not prone to suppuration and the extreme degrees of ordinary inflammation; and lastly, alike in being speedily and certainly remediable by the salts of potash. The most recent views in the pathology of this disease (to my knowledge) are those of Dr. Garrod and of MM. Becquerel and Rodier, the former assuming a deficiency of the potash salts, and the latter a redundancy of the salt of soda.

We come now to the last and most important, but fortunately, in a practical point of view, the easiest part of the subject.

Since the year 1564, the juices of limes, lemons, and of unripe oranges, have been known to be singularly efficacious in the treatment of scurvy. In 1795 lime-juice was introduced into the ration of the British navy by an Admiralty order, and from this period may be dated the final expulsion of scurvy from that service, and the "*sudden diminution of the sickness and mortality to an extent scarcely credible*."

It is useless to insist on the well known fact of the power of lime-juice in curing scurvy, as there is but one recorded instance of its failure, and this may be the exception that proves the rule. A more important consideration is, Upon what does this curative power depend? Is it, upon different principles, to be found in the various antiscorbutics? or is it rather upon something common to all? The last will be found to be the case, for, upon a survey of the host of articles of admitted virtue, all will be found to contain some salt of potash. The green, herbaceous parts of plants, with the juices of unripe fruits, we are told by chemists, abound with the various salts of potash, the alkali being here in combination with some one of the vegetable acids, citric, acetic, malic, tartaric, oxalic, etc.; but, as far as this action in the animal economy extends, they may be regarded as the salt, being all converted into the carbonate during their passage through the body. Again, all the following articles which have been found of service, either in the prevention or cure of scurvy, will be found to contain potash, viz. lime-juice, unripe fruits, oranges, guavas, apples, the uncooked plants of the cruciferae, cabbage, cresses, turnip, or those prepared as sour-kraut, raw turnip, beer made of spruce, molasses, wine, cider and the vinegar therefrom (pure vinegar, made by the German process in the acetous fermentation of alcohol, being an exception), gunpowder, saltpetre, and lastly, the potato, the effective antiscorbutic of our immense whaling fleet (by analysis found to contain citrate or tartrate of potash, possibly both).

This apparently hasty generalization derives further support and countenance from the interesting article of Dr. Hammond, U.S.A., on scurvy (Amer. Jour. Med. Sciences, Jan., 1853), where not only was the use of water containing potash found to procure an exemption from the disease where its causes were peculiarly rife, but in the treatment of cases one salt of potash was successfully substituted for another, as the necessity of a limited supply of each compelled.

"Both this (the bi-tartrate) and the carbonates, however, becoming exhausted at the first, I administered several other salts of the same article, both separately and with citric acid, without, however, perceiving that the latter article at all accelerated the cure."

A singular, but generally prevalent misapprehension exists in regard to the true curative agent in articles used as antiscorbutics; for instance, Becquerel and Rodier speak of treating scorbutus "by tonic regimen and the use of the vegetable acids:" here, however, the expression "*vegetable acids*" may be loosely used for the acid or supersalts of vegetable juices, and not, as the term would strictly convey, an idea of the pure, separated or crystallized acids, such as the citric, tartaric, etc.

Again, our greatest authorities, Wood and Bache (Dispensatory, article Citric Acid), speak of citric acid as antiscorbutic, and capable of supplying the place of lime-juice; hence I suppose our ships are bountifully supplied with it. That this is a mistake, the fact shown above that all antiscorbutics contain potash—the statement of Dr. Hammond, above quoted, of the inefficiency of citric acid—and, lastly, that it possesses no curative powers in rheumatism (a disease nigh to scorbutus), while lime-juice is all powerful—all go to render exceedingly probable. The correctness of the above views being admitted, I leave it to others more conversant with the economical point of the question to determine what shall be the antiscorbutic (if any) to be introduced into the sea-ration—whether we shall imitate the British and use lime-juice rendered unfermentable by the addition of a small quantity of spirits, or, as recommended by Dr. Hammond for the army, serve out some salt of potash—the bi-tartrate, as most palatable. The attention of the Chief of the Bureau is respectfully invited to the following leading points, insisted on and attempted to be established in the above remarks.

I. A "scurbutic taint" among the men of our navy with the present ration.

II. The imperfection of our navy ration, in not including any decidedly anti-scorbutic article.

III. The defective supply of a "*preventive*" in the medical department.

IV. The comparative pathology of scurvy.

V. A salt of potash, the true antiscorbutic element in every article.

VI. The want of antiscorbutic virtue in the "vegetable acids" when pure and uncombined.

Hoping an indulgent reception of the above random and imperfect production, the offspring of an abundant leisure during our recent cruise, and trusting that it has not trespassed too far on your time and patience, I have the honor to be,

Yours, etc.

## Reports of Hospitals.

### FINLEY GENERAL HOSPITAL, WASHINGTON, D.C.

GUNSHOT WOUND OF ARM—RESECTION—ERYSIPELAS—  
PYEMIA—DEATH.

By T. R. POOLEY,  
MEDICAL CADET, U.S.A.

J. R. PERKINS, private, Co. A, 121st Regt. New York Vols., was wounded in the action at Chancellorville, May 3, 1863, by a minié ball, which entered the inner side of the arm three inches below the head of the humerus, and passed directly through the limb, shattering the bone. Upon his arrival at this hospital, May 7th, he was placed under the care of Act. Assist.-Surg. Keys. On examining the wound it was found very much swollen and the edges gaping widely, a partial resection having been performed on the field. The inflammation gradually subsided, and on May 15th a consultation was called, and it was decided to perform resection. Accordingly, the operation was performed by Dr. Keys, by extending the incision which had previously been made about four or five inches, and three inches more of the shaft of the humerus were removed. The patient rallied well; the edges of the wound were brought together with sutures, and irrigation was applied to keep down inflammation. The wound now took on healthy action, and the patient continued improving rapidly until May 23d, nine days after the operation, when he was seized with severe rigors, followed by violent febrile action, which recurred regularly every day until the night of the 27th, when typhoid symptoms were manifest, with erysipelatos inflammation of the wound. His stomach, which had been very irritable since the first appearance of the rigors, now rejected everything. May 28th.—Unfavorable symptoms increased; pulse 120, and feeble; tongue dry and parched. Irritability of stomach continues. Erysipelas extending; it has reached to the shoulder, and about three inches below the elbow. Solution of ferri sulphas and bromine was applied, and tonics, stimulants, and nourishing diet, ordered in as large quantities as the stomach would tolerate. Has been able to retain a little brandy and water. Other symptoms about the same; he complains of pain in the chest, without being able to refer it to any particular spot; has slight cough. Seven P.M.—Complains of pain when coughing; has dyspnoea and a cadaverous countenance. Tongue very dry; complains of great thirst. Pulse about the same as in the morning; skin moist; passes water freely. Bowels quiet, free from pain, but complains of a sensation of great heat in the abdomen. Wound continues to discharge tolerably healthy pus. May 29th.—Tongue again moist; respiration hurried; extensive dulness over both lungs; still has the same anxious, cadaveric look; does not complain of pain. Thirst continues; erysipelas almost disappeared under treatment. Eleven A.M.—Asked to be raised in his bed to drink; drinks freely; appears cheerful, and asks to sit up in his chair. After sitting up in bed a few minutes requested to be laid back, and immediately died.



*Autopsy, about six hours after death.*—Body well developed. Rigor mortis well marked. *Thorax.*—From three pints to two quarts of bloody serum mixed with coagulable lymph was found in the pleural cavities. The lower borders of both lungs were studded with metastatic abscesses. The heart was perfectly normal. *Abdominal Cavity.*—All the abdominal organs presented a healthy appearance. The wound was now opened, and the parts examined; the ends of the bone were found neatly trimmed, and coagulable lymph had been abundantly thrown out; the pus secreted by the wound was small in quantity and healthy in appearance.

Of course, cases similar to the one above related will always be frequent after the severe gunshot injuries received in battle, the necessary disturbance of transportation, and the surgical procedures so often required. In this instance, to all the other sources of irritation were superadded that of an exsection performed on the field of battle—an operation difficult to perform properly under such circumstances, and the good effects of which, if ever so well done, are liable to be frustrated by the subsequent and often violent jolting of necessary transportation. It is worthy of the most serious consideration whether such operations had not better be deferred till the sufferer has reached his destination in some permanent hospital.

## Reports of Societies.

### NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, January 7, 1868.

DR. JAMES ANDERSON, PRESIDENT, IN THE CHAIR.

#### FRACTURE OF LOWER JAW, TREATED BY INTRA-DENTAL SPLINTS.

DR. AUSTIN L. SANDS read the following case of fracture of the lower jaw, and exhibited an improved apparatus for its cure. Within the past two months I have had under my observation and care a case of fracture of the lower jaw. The means used for the cure being, as far as I know, entirely novel and perfectly successful, I have taken the liberty of presenting them to the members of the Academy.

Mr. J. P. Gunning, the gentleman receiving the injury, is by profession a dentist, and a thorough knowledge of his profession enabled him to devise and execute the means used for his cure.

Some time before receiving the injury he had mentioned to me his plan for securing a broken jaw, and I had promised, in case of meeting with such an injury, to try it. It so happened that Mr. G. was the first to receive the benefit of his ingenuity, fracturing his lower jaw by being thrown from his horse. The fracture extended from the right canine tooth obliquely to near the symphysis. The soft parts covering the bone were lacerated, and the displacement was sufficient to allow the placing of a finger between the teeth. The apparatus used for securing the fracture was a vulcanized india-rubber used as a splint, covering the teeth entirely, and secured by a fine screw on each side passing into a molar tooth. In this case, after securing the fractured extremities by passing a ligature tightly around the teeth at the seat of fracture to keep them in place, an impression of all the teeth of the lower jaw was taken in wax. From this a plaster mould was made, and on this the vulcanized rubber was cast. In this way was formed a splint covering and fitting accurately to all the irregularities of the teeth of the fractured jaw. A small hole was made through the outer side of the splint to allow the passing of a fine screw through it to be fastened into the first molar tooth on each side, to keep the splint from working up. It fitted so closely there was no necessity for it as it has been worn since the first application without the screw. The instrument was made and applied some eight hours after the injury was received. As soon as it

was adjusted the fractured extremities seemed to be so securely held in place that I did not consider a bandage necessary. On the following morning the patient was in his office attending to his business, and continued to do so regularly. The splint remained on without being removed for twenty-four days. It was then taken off to see the condition of things, and a very good union was found to have taken place, sufficient to allow the patient to talk with ease to himself. The splint was then replaced without putting in the screws, and was worn regularly till the expiration of six weeks from date of injury. After that it was only worn while eating, or during the performance of his dental operations, when the muscular force used brought some strain upon the jaw. The splint fits so closely that food cannot work up between it and the teeth, and by using a syringe the parts were kept perfectly clean and pure.

The advantages derived from the instrument are the perfect steadiness with which the fracture is held in place, the great comfort to the patient in being able to eat and talk, and if the fracture is in the anterior part of the jaw, being able to go without the application of a bandage, trusting entirely to the support of the splint. This would not be the case if the fracture was behind the first molar teeth, as there would not be sufficient support from one or two teeth to hold the fracture in place. In that case the ordinary bandages would be required, and the splint would merely assist in steadying the fracture and giving an even bearing for the upper jaw to rest on.

After a careful consideration, I am led to believe that this splint can be made of great assistance in all cases of fracture of the lower jaw, where it is such as to require the use of bandages, overcoming irregularities in the jaw from the loss of teeth or irregular conformation, as the rubber can be moulded in any shape required, giving an even bearing to be bound up against the upper jaw, with indentations in the upper surface of the splint for the teeth of the upper jaw to rest in, holding the fracture in that way perfectly steady.

An opening can be left in the front to allow the introduction of liquid food, and the instrument need not be removed till the cure is complete.



a, a, a, a, Screws by which the plates are secured to a molar tooth on each side.

DR. STEVENS.—I look upon the contrivance as far beyond anything in our way of treating fractures of the lower jaw that has ever been discovered. Like every other useful discovery, it has the advantage of great simplicity. As Dr. Sands has well remarked, it is not strictly applicable to fractures of the inferior maxilla, posterior to the canine teeth, but it may be made a great adjuvant even in the treatment of such cases. I congratulate the Academy on behalf of this discovery, for I firmly believe it to be of such importance as to last for ever.



Dr. Post remarked that Lonsdale had already advised a somewhat similar apparatus for the treatment of that variety of fracture. The plan was first to take a wax cast of the teeth, and then carve from that cast an ivory one, to adapt itself exactly to the teeth of the lower jaw. But, besides this, there was a wooden splint adapted to the base of the jaw, and the two screwed together. This apparatus was advised by Lonsdale in all cases of fracture of the lower jaw, but particularly those in which the upper teeth being defective, there was not sufficient support afforded by the upper jaw. The principle of Dr. Sands's splint was the same as that of Lonsdale, though the material and mode of construction were peculiar.

Dr. STEVENS.—The statement of Dr. Post is the only attempt of anything of the kind that has been made, so far as my reading or knowledge extends, but it was not of a character to diminish materially the value of this discovery. It has never been adapted to practice, and is almost entirely forgotten.

Dr. A. L. SANDS stated that his idea of Mr. Lonsdale's splint had been simply a carved piece of ivory adapted to the teeth of the lower jaw. In any event he did not think it would compare to the adaptability of Mr. Gunning's apparatus.

Dr. ANDERSON.—Mr. Gunning says that the cast had better be taken as soon as possible after the accident, in order to provide against the consequences of the gums swelling.

Mr. T. B. GUNNING.—The difficulty to be surmounted in promptly taking a cast of the jaw is not so much due to the swelling of the gums *per se*, as to the difficulty (in consequence of the swelling) of opening the mouth wide enough.

Dr. PEASLEE.—I would like to ask in what form the article can be purchased, in order that we may use it?

Mr. T. B. GUNNING.—It is very easily obtained, but not so easily worked. The most experienced surgeon would probably find it more to his advantage to call in a dentist to his aid, for there are a great many details about getting an accurate cast of the jaw, which one not acquainted with mechanical dentistry would not be prepared for. The surgeon should find the brains, while the dentist attends to the mechanical part. The material is Goodyear's patent hard rubber, and may be obtained from any of the manufacturing dentists, but particularly of Franklin, who is the agent for it.

The Meeting was then adjourned.

## American Medical Times.

SATURDAY, AUGUST 8, 1868.

### PROVISION FOR DISABLED SOLDIERS.

AMONG the questions growing out of the war which are to interest philanthropists, one of great importance is the proper disposition of disabled soldiers. Every country that maintains a large military force must have some system of pensioning and of support of those disabled in the Government service. The obligations of the United States to the future care, and, if necessary, the support of its disabled soldiers, is, if anything, more sacred than that of other governments to the same class. It is by their fidelity, bravery, and personal sacrifices, that this Government has, and will have, an existence. The extent to which this country is to be taxed on this score is thus foreshadowed by a competent authority:—

They calculate that, if it continues a year longer, not less

than a hundred thousand men, of impaired vigor, maimed, or broken in body and spirit, will be thrown on the country. Add to this a tide of another hundred thousand men, demoralized for civil life by military habits, and it is easy to see what a trial to the order, industry, and security of society, and what a burden to its already strained resources, there is in store.

In the establishment of the Invalid Corps our Government has already taken the first step in the solution of this question. Large numbers of disabled soldiers are now employed in the public service who would otherwise become pensioners both upon the Government and people. But this is not all that must be undertaken for the future welfare of this class of soldiers. It is gratifying to notice that this subject is already attracting the attention of the Sanitary Commission, which is ever anticipating as well as immediately supplying the wants of the soldier. To determine the nature of the provisions made by European governments for disabled soldiers, and as a preliminary study of the subject, the Commission instructed Mr. S. G. PERKINS, of Boston, a gentleman interested in these inquiries, and who was about to embark for Europe, to collect information. In May last Mr. P. submitted his report, which contains an interesting sketch of the pensioning and hospital systems of France, Prussia, Austria, Russia, and Italy.

From a review of the information gained, Mr. P. concludes that, in France and Italy, the provision for the common soldiers, as well in regard to the terms on which the pension and the right of admission to hospital are accorded, as to rates of pension allowed, and to the care of their widows and children, is far more just and humane than that existing in Germany. In Prussia and Austria, the minimum pension of the common soldier is a mere pittance, which can go but very little way towards supporting him, and only those most severely injured gain admission to the hospitals. In France, the pensions have been raised several times, and the minimum now for the common soldier is one franc a day. In Italy, it is about fifty-five centimes; in Prussia, twelve thalers a year; and in Austria, five kreutzers (say two cents) a day. The average of all the pensions of subalterns and soldiers in Austria appears to be only twenty-eight florins per annum, or between three and four cents a day. He also notices a striking contrast in the treatment of officers and soldiers. In France, about one-fifth of the pensions is paid to officers, and the amount so paid is about fifteen thirty-thirds of the whole payment; whereas in Prussia, only one-sixth of the pensions belongs to officers, but it absorbs twenty-eight thirty-thirds of the payment; while in Austria, the pensions of the officers and their widows are one-fourth of the whole number, and absorb about twenty-eight thirty-thirds of the whole payment. In contrasting France and Italy, it appears that although the rates of pensions are about the same (allowing for the cost of living), and the terms of admission both into the ranks of the pensioners and into the invalid establishments are very similar, the practice of the pensioners is quite different. While in France, the number in hospital is constantly diminishing, and the inmates and admissions consist almost entirely of men over sixty years of age, and the whole number of invalids is only about two thousand, with a pension list of over fifty-seven thousand, in Italy there are over ten thousand men in the hospitals, with a pension list

of about thirty thousand. The returns from all these countries agree in one particular, and a very important one for our consideration, viz. that, in consequence of the laws establishing pensions and hospitals having been made at different times, and without due regard to each other, there is no just proportion between the cost of maintenance of the invalids in hospital and the rates of pension allowed, even where the latter are the most liberal. For example, in the year 1861 there was an average number of 2,302 invalids in the Hotel des Invalides in Paris, and the cost of maintaining them, including all salaries, and the charges for repairs of the Hotel, but no rent, was frs. 2,313,744.41, equal to frs. 1,005.10 per head. The amount of pensions which would have been paid to these persons, had they not entered the hospital, would have been, as nearly as can be ascertained, frs. 1,150,890, or, say, frs. 548.30 average, per man, a cost to the State of nearly twice as much in hospital as the amount of their pensions. A similar result is found in Italy, where the hospitals are crowded. The contrast is still greater in Germany. The 480 invalids in hospital in Prussia cost more in proportion to the average of pension than the French invalids do; and in Austria, where the average of all the pensions of subalterns and soldiers is only 28 florins per annum, the average cost of 200 officers, and 201 soldiers and subalterns, in the six hospitals and Filialien, is 162 florins per head per annum. The general conclusion is, that all laws establishing pensions and invalid hospitals should be made with reference to each other.

Mr. Perkins remarks, that the great point to be avoided in framing our law, and yet one which seems to have been almost everywhere overlooked, is the failure to provide regular civil occupation for the invalids. For want of this, it has been found impossible at the Hotel des Invalides, in Paris, to prevent drunkenness. Dr. Faure, the head-physician of that establishment, told him that it was common for the invalids to sell their rations of meat and bread, in order to obtain the means to buy brandy, and that nearly all the punishments which they were forced to inflict, arose from drunkenness. Other officers of that establishment corroborated his statement, and all said, if you establish an invalid hospital system, let regular occupation for invalids be the corner-stone of it.

He especially recommends two features in the foreign systems: First, the Prussian and Italian plan of dividing all the invalids into two classes—one still fit for stationary duty, and one unfit for military duty, from the former of which the garrisons, in certain proportions, are recruited. By extending this to all pensions, and allowing those fitted for service to volunteer for garrison duty, perhaps a considerable number of pensioners might be saved, as it is presumable that the United States Government will be obliged to maintain numerous garrisons for many years after the present war shall have come to an end. Second, the Prussian plan of issuing warrants to military pensioners by government, securing them appointments to the first places vacant in certain subordinate branches of civil service (such as the railroads, post-offices, custom-houses, etc.), for which they may be found fit, to the exclusion of competitors from civil life, and as fast as they are provided with places in the civil service, they are stricken off the pension list. This system is very economical for the government, but in Prussia it works a great evil, by building up a military caste

among the lower orders of society, analogous to the one which exists among the upper classes. In the United States, he thinks we should have little to fear on this score; and as our Government is obliged to maintain a multitude of subordinate officers in the custom-houses, the post-offices, etc., it might be no disadvantage to have half the number consist of men entitled to hold their places during good behavior, and so removed from the corrupting influences of political changes.

We have copied largely from this interesting report, the better to present its statements and conclusions. We shall hereafter notice the scheme proposed by the commission, and by Mr. Perkins. In conclusion, we quite agree with the author it is very important, for economical and other reasons, that a variety of occupations should be offered to them, so that the different tastes and habits of men may be suited, as far as possible, and the number of idle pensioners in the republic reduced to the utmost; and no invalid ought to be left in the position to complain, that with a pension less than sufficient to support him, he is forced to compete in the open labor market with able-bodied men.

#### THE WEEK.

THE New York Soldiers' Dépôt grew out of the necessity of having an institution in this city devoted to the immediate care of the New York sick or wounded soldiers on their arrival from the field of battle or from hospitals. The sum of \$200,000 was appropriated by the last Legislature for this purpose, and placed at the disposal of the Governor. The Governor appointed a Board of Managers, consisting of ADJUTANT-GEN. SPRAGUE, INSPECTOR-GEN. MILLER, QUARTERMASTER-GEN. TALCOTT, and SURGEON-GEN. QUACKENBUSH. This Board selected the large and commodious building 50 and 52 Howard street, and had it fitted up with every convenience for the comfort and proper care of the sick. No hospital could be more complete in all its appointments and details. The superintendent selected by the Board, COL. NEVILLE, is a thorough disciplinarian; and the Resident-Surgeon, DR. WELSH, is a man of experience and skill. The "Depôt" has numerous agents who visit Washington and other points, where soldiers may be found *en route* to New York, and who furnish them all suitable aid. A Board of Consulting Surgeons and Physicians is also attached, embracing some of the most eminent members of the profession of the city. Since the opening of the institution, now about two months, upwards of five thousand soldiers have received its benefits.

THE comparative liability of white and colored troops to diseases of a malarious origin has long since attracted the attention of the English authorities, and has doubtless greatly influenced the composition of their forces serving in malarious countries. From the annual report of the British army for 1869, it appears that in Jamaica the ratio of mortality is as follows:—White 101.9, black, 8.2; Bahamas, white 159.0, black 5.6; Sierra Leone, white 410, black 2.4. These facts have an important bearing on the present policy of our Government in organizing negro regiments for service in the malarious regions of the South. Already SURGEON-GENERAL HAMMOND has been able to contribute an item of statistical information bearing on this point. In a recent communication to the Secretary of War he states that MEDICAL-INSPECTOR TOWNSEND reports, that

in the Department of the Gulf white and colored troops are found serving together, and equally subjected to malarious influences. The ratio of sick, of diarrhoea, dysentery, remittent, intermittent, typhoid fevers, etc., is white 10.8 per cent., and colored 0.8 per cent. The argument in favor of the employment of colored troops at the South, if based on their comparative immunity from the diseases peculiar to that region, is conclusive.

By direction of the Secretary of War, DR. C. H. NICHOLS, the accomplished Superintendent of the Government Hospital for the Insane, Washington, visited the Eastern Lunatic Asylum, Williamsburgh, Va. This is the oldest asylum for the exclusive treatment of insane in the United States. It has stood on debatable ground, but since the occupation of that village by the Union Army in 1862, has been in charge of the U.S. Government. The present medical officer is DR. JAMES L. WATSON, Assist.-Surgeon 139th Reg. N.Y.V. It contained at the time of its inspection 216 patients; white 191, colored 25. The physician and attendants seemed intelligent and humane, and the institution seemed to be under proper discipline. The Asylum, like most of the public buildings of Eastern Virginia, has neither water-closet nor urinal, nor proper sewerage or water supply. DR. NICHOLS did not advise any change in the management of the institution under existing circumstances.

It should be stated that the article by DR. FARQUHARSON, late of the U.S. Navy, was written upwards of ten years since, and is not to be taken literally as applicable to the regulations of the navy at present, but rather as illustrative of the causes and prevention of scurvy. The paper was transmitted to us by DR. F. H. HAMILTON, Med.-Inspector, U.S. Army. In another column the present law regulating the Navy ration will be found.

## Reviews.

A MANUAL OF MINOR SURGERY. By JOHN H. PACKARD, M.D., Demonstrator of Anatomy in the University of Pennsylvania, etc., with 145 illustrations. Philadelphia: J. B. Lippincott and Co., 1863. Pp. 288.

MINOR SURGERY is practically more important than capital surgery, as it embraces a knowledge of all those appliances and methods which are comprehended under the term "good nursing." Upon it depends the fate of the majority of cases in surgery of whatever grade of severity. Whatever effort, therefore, is made to qualify the young surgeon in minor surgery, is deserving commendation. Our surgical literature is deficient in well written works on this branch of surgery. This subject is also much neglected in the schools—professors of surgery will occupy the whole course of instruction with the detail of theories, and the minute description of the large operations, passing over as unimportant those minor but everyday subjects which are so largely to occupy the attention of the young practitioner. It is of vastly more importance that the student should so learn by actual practice to apply a bandage and splint as to become an expert manipulator, than to familiarize himself with all the capital operations.

Until the appearance of Dr. Packard's work the Minor Surgery of Sargeant was the only American work adapted to students and junior practitioners. It has answered an excellent purpose, and we are glad to see it still passing through successive editions. It is to be regretted that more care is not taken in incorporating recent improve-

ments, and omitting details that are now of little importance. A careful comparison of these two works does not satisfy us that Dr. Packard's is on the whole preferable to that of Dr. Sargeant. The former is somewhat more complete in the number of subjects introduced, but it is not more simple and concise in detail. The illustrations are quite inferior. We could not, therefore, pronounce the former the more deserving of the patronage of surgeons engaged in civil practice.

The work of Dr. Packard is, however, an addition to the literature of minor surgery, which is, it appears, well adapted to the army surgeon. It has received the unqualified approval of a Board of Surgeons appointed by the Surgeon-General. It is in this field that the work will doubtless find its appropriate mission and its chief success.

## Correspondence.

### REMARKS ON REGIMENTAL HYGIENE.

[The following letter of a regimental surgeon to Prof. Hamilton is worthy of attentive perusal.—Ed.]

SIR:—Knowing your great desire to improve the condition of the U.S. Army, and admiring the zeal you manifest in your very close and careful inspections, allow me to set forth to you, in as few words as possible, the past condition of the 18th Mich. Vols. under my charge, in a sanitary point of view, the improvements taken place, by what means, etc., together with my opinion as regards diet, exercise, disease, etc., which has been the only and necessary result of close observation.

Firstly: This regiment is composed chiefly of young men of good families, of social standing, of education, reared in affluence, and unaccustomed to severe labor. The balance is composed of farmers and farmers' sons, all men of good moral character, and temperate in habit, and generally of excellent physical constitution.

Secondly: They were mustered into the U.S. service at Hillsdale, Mich., on or about the 26th of August last; left for Kentucky almost immediately, and arrived at Covington Sept. 5th; on the 23d Sept. marched from Covington to Snow's Pond, Lexington Pike, Ky., distant fifteen miles; left Oct. 6th for Camp A. J. Smith, distant ten miles; Oct. 10th, left for Camp Wells, Ky., distant eighteen miles; left Oct. 16th, and marched to Camp Jones, eighteen miles; thence on the 19th for Georgetown, Ky., twenty miles; thence on the 21st for Lexington, thirteen miles, at which place the regiment was stationed until Feb. 21st, 1863, at which date it left Lexington for Danville, Ky., distant thirty miles, and remained until the 21st March; then marched to Stanford, thirteen miles, and returned to Danville, March 23d; on the 24th marched to Camp Scott, twelve miles; on the 27th left for Nicholasville, seven miles; the 28th marched to Camp Dick Robinson, six miles; the 29th to Lancaster, seven miles; the 30th marched to Dix River, five miles; thence returned to Lancaster, and marched to Crab Orchard, eighteen miles; 31st left Crab Orchard and marched to Buck Creek, twenty miles; April 1st returned to Crab Orchard, 2d to Stanford, 8th to Danville; 9th left Danville for Lebanon, arriving on the 10th, twenty-eight miles; 13th, left Lebanon for Nashville, Tenn., by rail, arriving on the 14th, at which place it is still encamped.

I joined the regiment at Lebanon, and found it about to leave for Nashville; had no time to inform myself in regard to its sanitary condition until we arrived here. During the balance of the month of April the number reporting sick daily ranged from forty to sixty cases, consisting principally of diarrhoea, many of them being already chronic, all of which I found to be very difficult to treat so as to afford relief. The rations used by the men at this time were strictly army rations of hard bread and salt pork and beans. The locality in which we were encamped was excellent, free from all miasmatic influence, well policed

and cared for. The rations were also invariably extremely well cooked. But notwithstanding the advantages derived from rest, a clean and well located camp, well cooked rations, good tents, etc., I daily found the men becoming less susceptible to the effect of medicines administered, and the number of sick slowly increasing, the diseases also increasing in violence and virulence. Feb. intermittens commenced about May 1st. The first cases were severe. Quinine, as an antiperiodic, was of no value. Being somewhat surprised at the little benefit derived from medical treatment, and thinking I had some latent but powerful influence opposing me, I subjected each man presenting himself on the report to a strict examination, and found that, with very few exceptions, all were suffering from *scorbutic* poison—their systems perfectly infiltrated with it, as it were—so much so, that, if a vesicant was applied, it was most surely followed by erysipelatous inflammation. Scarifying and cupping, the same; and in many cases a peculiar eruption existed, which I presume you have heretofore observed in scorbutic cases. This was the secret force arrayed against the means of cure. I immediately adopted the following course:—1st. Change of food, withdrawing all salt food, beans, and hard bread; fresh soft bread, fresh beef, and corn meal were substituted. The men were daily charged to eat of no grease, and of nothing but the fresh rations, adding vinegar and pepper, together with a few vegetables, which through your influence I was enabled to obtain for them. From this time to the present a very small amount of medicine was used. The same food has been continued in such quantities as we have been able to obtain both from the Commissary and the Sanitary Commission, to whose kindness I acknowledge myself indebted for supplies of potatoes and onions at different times; and am very happy to state to you that now we have less than thirty sick in quarters, the most of whom are at any moment able to don the knapsack, and march, gun in hand, if called upon. No disease assumes a malignant form; medicine now has a happy effect, and the men are jovial and jubilant, instead of being torpid and sluggish. You will notice that corn meal was substituted for beans, and that the substitute is still in use. My reasons are these:—I consider beans the most indigestible of all vegetables, and, if this is true, they, of course, must be the most injurious. The bean, let it be cooked and prepared as it may, ferments in the stomach before it digests, and diarrhoea and an irritated alimentary canal are the necessary results. It also gives to the system a vast amount of carbon, which is not required in the warm climate, nor in any climate or latitude with the thermometer at 90°. The corn meal, on the contrary, is generally grateful to the stomach, gently loosens the bowels, sufficient to maintain them solvent, and thereby prevents the accumulation of irritating substances in the intestines, has as much nutriment as the system requires, can be prepared in so many different ways, and enters so many potages as an ingredient, that it is far more healthy, more convenient, and after a few days eaten as heartily as any class of food ought to be.

My attention was first called to the value of corn as aliment for an army in 1852, '53, '54, and '55, during which time I held the commission of surgeon in the Mexican army. Being most of the time Division Surgeon, I had the opportunities to thoroughly examine the subject, and I can say that I have known seven thousand men on the march for twelve successive days, with no other ration than one quart of parched corn in their haversacks daily, and without there being five sick in the whole division to which I belonged. Scurvy is a disease almost unknown in that army, and I can assure you that corn is, at all times, the principal article of food, and at many times the only one the soldier can obtain.

Again: It is often observed that fresh beef is productive of diarrhoea, dysentery, etc. That this should be, seems to me very strange; and I am led to believe that these diseases are the results of salt grease and bad cooking, and

not of the fresh beef. Fried beef (that is beef saturated with rancid pork grease, and half cooked) most undoubtedly will produce not only these diseases, but others which are pathologically blood poisons, but I do not believe that good beef, well boiled, or broiled on the coals, the gridiron, or toaster, ever has or ever will produce any disease, as long as it is used as it should be, and not gormandized.

The price of vegetables has been very high, but now the prices have fallen; vegetables now are abundant and cheap. Will you, Sir, use your influence, to the end that at least four full rations of potatoes can be obtained every week? As a recompense for this service, I will have the men under my charge not only able but willing to do duty at any time, deducting a very small percentage for those diseases which are unavoidable.

I have been far more lengthy than I intended, but I could not conveniently find a stopping-place.

Very respectfully, your obt. servt.,

CHAS. L. SOUTHWORTH,  
Surg. 18th Mich. Vols.

## Army Medical Intelligence.

### EXTRACTS FROM AN ACT TO ALTER AND REGULATE THE NAVY RATION.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the navy ration shall consist of the following daily allowance of provisions to each person: One pound of salt pork, with half a pint of beans or peas: or one pound of salt beef, with half a pound of flour, and two ounces of dried apples, or other dried fruit; or three-quarters of a pound of preserved meat, with half a pound of rice, two ounces of butter, and one ounce of desiccated "mixed vegetables;" or three-quarters of a pound of preserved meat, two ounces of butter, and two ounces of desiccated potato; together with fourteen ounces of biscuit, one-quarter of an ounce of tea, or one ounce of coffee, or cocoa, and two ounces of sugar, and of a weekly allowance of half a pound of pickles, half a pint of molasses, and half a pint of vinegar.

SEC. 2. *And be it further enacted,* That fresh or preserved meat may be substituted for salt beef or pork, and vegetables for the other articles usually issued with the salted meats; allowing one and a quarter pound of fresh or three-quarters of a pound of preserved meat for one pound of salted beef or pork; and regulating the quantity of vegetables so as to equal the value of the articles for which they may be substituted.

SEC. 3. *And be it further enacted,* That should it be necessary to vary the above-described daily allowance, it shall be lawful to substitute one pound of soft bread, or one pound of flour, or half a pound of rice for fourteen ounces of biscuit; half a pound of rice for half a pint of beans or peas; half a pint of beans or peas for half a pound of rice.

SEC. 4. *And be it further enacted,* That, in case of necessity, the daily allowance of provisions may be diminished or varied by the discretion of the senior officer present in command; but payment shall be made to the persons whose allowance shall be thus diminished, according to the scale of prices which is or may be established for the same; but a commander who shall thus make a diminution or variation shall report to his commanding officer, or to the Navy Department, the necessity for the same, and give to the paymaster written orders specifying particularly the diminution or reduction which is to be made.

SEC. 6. *And be it further enacted,* That the provisions of this act shall go into effect in the United States on the first day of the succeeding quarter after it becomes a law; and in vessels abroad on the first day of the succeeding quarter after its official receipt; that any acts and parts of acts which may be contrary to or inconsistent with the provisions of this act shall be and are hereby repealed.

SEC. 7. *And be it further enacted*, That the Secretary of the Navy be authorized to procure the preserved meats, pickles, butter, and desiccated vegetables in such manner and under such restrictions and guarantees as in his opinion will best insure the good quality of said articles.

Approved July 18, 1861.

FROM THE NAVAL APPROPRIATION BILL, APPROVED JULY 14, 1862.—SEC. 4. *And be it further enacted*, That from and after the first day of September, eighteen hundred and sixty-two, the spirit ration in the Navy of the United States shall for ever cease, and thereafter no distilled spirituous liquors shall be admitted on board of vessels-of-war except as medical stores, and upon the order and under the control of the medical officers of such vessels, and to be used only for medical purposes. From and after the said first day of September next there shall be allowed and paid to each person in the navy now entitled to the spirit ration five cents per day in commutation and lieu thereof, which shall be in addition to their present pay.

GENERAL ORDER.—From and after the first day of September next, the law allows *five cents per day* to each person in the navy, now entitled to the spirit ration, in commutation and lieu thereof, which shall be in addition to their present pay.

Pay officers will credit this allowance on their rolls, under the separate head of "undrawn spirits," to each person on board ship entitled to a ration, and at the end of each quarter will pay the amount due, to such of the crew and marines as may elect to receive it. If any person shall decline to receive such payment, it must remain to his credit on the books of the ship and be accounted for in the same manner as other pay.

The commutation price of the navy ration will continue to be twenty-five cents, without reference to the five cents allowed as above mentioned.

GIDEON WELLES.

NAVY DEPARTMENT, July 29, 1862.

(CIRCULAR.)

NAVY DEPARTMENT,  
BUREAU OF PROVISIONS AND CLOTHING. }  
June 11, 1863.

1. When vessels of the Navy have on board a sufficient supply of tomatoes, the Commanding Officer, if he deems it advisable, may direct the same to be issued to the crew in lieu of flour, rice, dried fruit, pickles, desiccated mixed vegetables or beans, but not oftener than twice in each week. Four ounces of tomatoes will be issued in lieu of eight ounces of flour, or four ounces of rice, or two ounces of dried fruit, or four ounces of pickles, or one ounce of desiccated mixed vegetables, or half a pint of beans.

2. Preserved tomatoes may also, with the consent of the Commanding Officer, be issued to officers and crew at eight cents per pound, and charged to them as cash: the amount to be credited by the Pay Officer to the appropriation for "Provisions."

3. Where potatoes, onions, or other fresh vegetables are sent out in quantities greater than are necessary for use with the fresh meat issued, the Commanding Officer may, at his discretion, allow the officers and crew to draw a reasonable quantity of the vegetables for each mess, and be charged for the same as cash, estimating the Irish potatoes and onions at one dollar per bushel, and turnips and carrots at half that price; the amount to be credited by the Pay Officer to the appropriation for "Provisions." If other vegetables or fruit be sent, they will be charged at invoice prices.

4. The Commander and Pay Officer of supply or store vessels will take care that no vessel shall receive an undue proportion of their whole cargo.

H. BRIDGE,  
Chief of Bureau.

TO THE COMMANDING OFFICERS AND PAY OFFICERS  
Of U.S. Ships of War.

(CIRCULAR NO. 12.)

SURGEON-GENERAL'S OFFICE,  
WASHINGTON CITY, D. C., July 29, 1862.

The attention of Medical Officers is called to the virtues of Permanent Potassa as a disinfectant and deodorizer.

A preparation of this salt in solution is supplied by the Medical Department. Medical Officers are directed to make proper requisitions therefor upon Medical Purveyors whenever its use may be indicated; and Medical Purveyors and Storekeepers are directed to keep a stock on hand by making timely requisition on this Office.

WM. A. HAMMOND,  
Surgeon-General.

ORDERS, CHANGES, &c.

Assistant-Surgeon R. L. Braden, U.S.V., has become insane, and been committed to the Government Asylum for the Insane, at Washington, D.C.

Assistant-Surgeon W. G. Moore, 61st Ohio Vols., was mortally wounded while attending to his duties in rear of his regiment at the battle of Gettysburg, July 3, 1863, by a cannon-ball, which took effect in his left thigh, lacerating and contusing it extensively from the gluteal region to the knee. The femur was not broken nor the femoral artery divided. Reaction, however, did not succeed the severe shock, and he died on the sixth of July, the whole limb being in a state of mortification or gangrene, which extended to the gluteal, scrotal, and iliac regions.

Surgeon G. L. Sutton, U.S.V., has been relieved from General Abercrombie's Staff, and assigned to duty as member of the Board for the examination of candidates for the Invalid Corps, at Camp Distribution, near Alexandria, Va.

Surgeon S. J. W. Mintzer, U.S.V., has been assigned to duty in charge of General Hospital, at McMinnville, Tenn.

Surgeon W. Clendenin, U.S.V., has been placed in charge of the General Field-Hospital, at Decherd, Tenn.

Surgeon A. M. Speer, U.S.V., is at Pittsburg, Penn., on twenty days' leave.

Surgeon John Neil, U.S.V., is Medical Director to General W. F. Smith's command, at Hagerstown, Md.

Surgeon E. W. Thurm, U.S.V., who has been sick in the General Hospital, at Fairfax Seminary, Va., for some weeks past, has returned to the Army of the Potomac, and resumed his duties with the 11th Army Corps.

Surgeon R. A. Christian, U.S.V., has been relieved from duty attending officers and soldiers in the city of San Francisco, Cal., and assigned to duty at the Headquarters District of Oregon, Fort Vancouver, W. T., as Medical Director of that District.

By command of the President, Assistant-Surgeon Charles Woodward, 26th Illinois Vols., has been dismissed the service of the United States for uttering disloyal sentiments.

Surgeon H. J. Churchman, U.S.V., having reported for duty from sick leave, has been ordered by the Assistant Surgeon-General at St. Louis to report to Major-General Grant at Vicksburg, Miss.

Assistant-Surgeon J. D. Johnson, U.S.V., has been assigned to duty at Camp Bradford, near Baltimore, Md.

Assistant-Surgeon W. C. Bennett, U.S.V., having reported at Headquarters Army of the Potomac, has been assigned to duty as Medical Inspector of the 12th Army Corps.

Assistant-Surgeon A. C. Van Dryn, U.S.V., has been assigned to the charge of the General Hospital, at Fort Scott, Kansas.

Surgeon Bernard Boust, U.S.V., has been assigned as Surgeon-in-Chief to the 1st Division, 11th Army Corps, Army of the Potomac.

Surgeon E. D. Kitch, U.S.V., has been placed in charge of the Confederate hospitals, at Vicksburg, Miss.

Leave of absence is granted to the following named medical officer, on surgeon's certificate of disability:

Assistant-Surgeon Joseph L. Cutler, 134th New York Vols., for twenty days.

Surgeon William Arnold, 87th Ohio Vols., is hereby mustered out of the service of the U.S., to date January 6, 1863, the date of his muster in, he having rendered no service to the Government.

Surgeon L. A. Edwards, U.S.A., and Capt. W. Silvey, 1st U.S. Artillery, Assist. to the Provost Marshal General of the United States for the State of Rhode Island, are hereby directed to proceed to Lovell Hospital, Portsmouth Grove, R. I., and there organize fit subjects for the Invalid Corps under the instructions of the Provost Marshal General.

The following officer will at once proceed to Wilmington, Delaware, and report for examination to Major-General Irvin McDowell, President of the Retiring Board, convened by S. O. 307, current series, from this Office.

Surgeon Madison Milla, U.S.A.

Private John W. Ehrman, Co. E, 1st Illinois Light Artillery, is hereby honorably discharged the service of the U.S., with a view to his enlistment as hospital steward, U.S.A.

By direction of the President, the following appointment is hereby made in the 2d Regt., District of Columbia Vols.

Assistant-Surgeon W. O. Baldwin, to be Surgeon, vice Keasbey resigned.

Leave of absence is granted the following named officer on surgeon's certificate of disability:

Chaplain J. C. Smith, U.S.A., for twelve days.

Assistant-Surgeon E. B. Zule, 3d Iowa Cavalry, is hereby discharged the service of the U.S., on account of incompetency.

The following officer, having tendered his resignation, is hereby honorably discharged the service of the United States on account of physical disability:

Surgeon Wm. T. Black, 1st Louisiana Vols., upon condition that he receives no final pay, until he furnishes evidence of service from January 1st, 1863, to the present day, no rolls of this regiment having been received at this office since December, 1862.

The Military Governor of the District of Columbia is authorized to discharge non-commissioned Officers and Privates who are confined in hospitals in the District of Columbia, on surgeon's certificate of disability, conformably to existing orders, notwithstanding charges of desertion are pending against them, and on summary examination to remit the charge of desertion in his discretion. In case the charge of desertion is not so remitted, the certificate of discharge shall have written thereon, "pay account suspended on charge of desertion."

## Original Lectures.

### DISEASES OF THE RESPIRATORY ORGANS IN CHILDREN.

BEING A COURSE OF LECTURES PREPARED FOR DELIVERY DURING THE SPRING  
SESSION OF 1862 IN THE COLLEGE OF PHYSICIANS AND SURGEONS, N. Y.

BY THE LATE

C. VAN ALLEN ANDERSON, M.D.,

PHYSICIAN TO CHILDREN'S DEPARTMENT, DEWITT DISPENSARY, N. Y.

#### LECTURE V.—PART II.

DIPHTHERIA, CONTINUED, AND TREATMENT.—SPASM OF THE  
GLOTTIS.

In treating the disease itself, remember that your patient is likely to die from apnoea, produced either by the spasmodic closure of the glottis, or by the obstruction arising from the presence of the false membrane. Your treatment, therefore, is to be calculated to meet both the spasmodic and the mechanical elements of the danger. In the first stage, and before we have reason to suspect the existence of pseudo-membrane, I recommended you to adopt some plan of treatment which will more particularly cause the nervous symptoms to subside. Open the bowels by a rapid and efficient purgative—where there is much heat of skin the saline ones are preferable—act on the cutaneous system by warm baths, and administer musk or other antispasmodics by the mouth or in the form of injections. If the hissing inspiration and ringing cough, together with the fits of dyspnoea, have appeared before your visit, I believe that the application of the hot sponges, after the manner of Dr. Graves, will prove of great advantage, for I am convinced that I saved one case last winter by their use; at any rate it is a remedy that can do no harm in its trial, and that is worthy of more attention than has been given to it. If you do not check the disorder by these means, do not hesitate to make your patient vomit frequently; not because emetics exercise any specific influence against the disease, but because they are not only powerful and safe expectorants, and also because they act beneficially on the skin and on the organs of circulation. Unless the child is exceedingly vigorous and robust, and the sthenic action of the disease extraordinarily marked, avoid carefully the use of antimony, but depend upon ipecac, which is perfectly safe, or upon the sulphates of copper or zinc, which can produce no harm if judiciously managed. Stimulating expectorants—such as that mentioned by Dr. West, consisting of decoction of senega, carbonate of ammonia, and tincture of squill—are of great value in all stages of the complaint.

Supposing that your patient, having been through such a course of medication, instead of mending, advance from bad to worse—the cough is more smothered, the hissing respiration more frequent, and the paroxysms of dyspnoea more intense—in fact, you begin to suspect the existence of false membrane somewhere in the larynx. By avoiding the depression of his system, you have husbanded his strength; nay, you have done more, for you have saved him from consecutive bronchitis or pneumonia, which, I believe in the majority of cases, are the direct consequences of the old plan of treatment. Your object is still to prevent his dying of apnoea; your emetics and expectorants are of no avail; you have one resource left—tracheotomy. Do not wait until the last stage, when it is almost impossible to rally the exhausted vital powers, but operate early while your patient is still in good condition. The operation itself, if properly performed, is perfectly simple and easy, it is followed by no bad effect, and it gives the inflamed larynx that perfect rest which is one of the most satisfactory elements in our treatment of inflammations of other parts of the body. Do not look upon tracheotomy as the very last resort in the treatment of croup, and therefore only to be used when death has already claimed his victim,

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but rather regard it as one of your most efficient means of cure if it only be performed at the proper time. The details of the operation I need not dwell upon, I only wish to impress on your minds its importance in uncomplicated cases.

The bronchitis and pneumonia which complicate the disease will require, in addition to the measures enumerated, counter-irritation over the chest, and an early resort to stimulants. Let it be your object to keep your patient alive, and give nature time to exert her healing powers. Tracheotomy should, of course, be avoided when there is also trouble in the pulmonary tissue. Stimulants, tonics, and the chlorate of potassa, are indicated both in diphtheritic croup and that which appears during scarlatina. I have frequently referred to the spasmodic element of true croup as forming one of its dangers; you will, therefore, easily appreciate the importance of an acquaintance with that disorder, for which the name of phæno-glottism has been proposed, but which is more commonly known as spasm of the glottis.

Previously to the year 1830 this affection does not seem to have been distinctly recognised, although monographs on the subject were from time to time published by English physicians, and by Dr. Rush, of Philadelphia, who published two essays—one in 1770, and another in 1809. Nearly all the writers of that period considered it a convulsive disease, but many of them confounded it with that form of croup in which the nervous symptoms predominate. But Dr. Kopp, a German author, from whom it has acquired the title of Kopp's Asthma, wrote an elaborate treatise on the disease, in which he propounded the idea that it depended upon hypertrophy of the thymus gland; and other German writers, following in Kopp's footsteps, gave the results of various post-mortems, by which they considered that their views were established. This produced both a fuller investigation of the subject and numerous emphatic denials of the truth of Kopp's theories and deductions; and among many good and valid objections, it was clearly established that cases of spasm of the glottis are frequent in which no hypertrophy whatever of the thymus can be detected. While this controversy was going on in Germany, various and different opinions began to prevail in England, some physicians considering the disorder as purely convulsive in its nature, others regarding it as dependent on a variety of local lesions. It is, however, to the French that we owe most of our knowledge of this complaint. In 1845, M. Trousseau showed conclusively that spasm of the glottis is a convulsive disease; and his work was shortly followed by the very remarkable treatise of Dr. Hérard, in which the history of the disorder is traced in its minutest details. He studied the condition of the thymus, the cervical glands, the heart, the brain, and the spinal cord, not only in children who died from spasm of the glottis, but also in those who died of other diseases, and demolished the theory of Kopp by showing that the thymus is an organ of variable size, and that its greater or less development has no appreciable effect upon spasm of the glottis. Dr. Reid, however, published a work on the subject, which, with the notes added to it in 1850 by Dr. Lorent, of Bremen, furnishes the most complete information that we possess. Dr. Reid supported his descriptions by facts observed in a large practice, twenty-six of the fifty cases which he printed being reported with extreme accuracy. The disease shows itself during various conditions of the system—sometimes in perfect health, sometimes in the course of dentition, sometimes during or in the convalescence from different acute and chronic disorders. There are no precursory symptoms, but the child is suddenly seized with a fit of convulsive suffocation, resulting from a spasmodic closure of the rima glottidis; respiration is suspended, the head is thrown back, the eyeballs protrude, the mouth is widely opened, the face is injected, the child is agitated, and sometimes carries his hands to his throat with the peculiar gesture that is observed in croup. This apnoea seldom lasts more than half a minute or a minute; it is nearly always the



initial phenomenon of the attack, and is followed by one or more short, sharp, hissing inspirations, or by one loud, crowing inspiration, like the hoop in whooping-cough. At the same time there is a remarkable spasm of the thumbs and great toes; the limbs stiffen, the thumb is thrown across the palm of the hand, the toes are bent towards the sole of the foot, and both wrists and feet are contracted inwards and downwards. Most of the other functions of the system experience transient derangement: the pulse becomes small and accelerated, the action of the heart is tumultuous and irregular, the veins of the neck and face dilate, the skin is covered with a cold moisture, there are involuntary evacuations, the walls of the chest are immovable, and, if auscultation be practised, the respiratory murmur is inaudible.

These symptoms disappear nearly as quickly as they have come on. The inspirations become longer and lose their hissing character, the limbs relax, the hands and feet reassuming their natural position, the face regains its color, and after a fit of crying the child, exhausted by such an alarming and violent seizure, falls asleep.

These convulsions vary somewhat according as the apnoea or the hissing or crowing inspirations are more or less marked, or exist alone. Sometimes the face is flushed, sometimes it is pale, sometimes the suffocation is more intense than at others, but one single spasm never lasts more than one or two minutes, though Barthez and Rilliet mention the case of a child who died of spasm of the glottis, a single convulsion continuing, as the parents assured them, during two hours; upon which they gravely and justly remark, "The gravity of the symptoms, and the consternation which they caused, permit us to suppose that the length of time was exaggerated, or rather that a single fit was confounded with a series of connected attacks." If the infant is strong, and the attack has not been violent, the return to the normal state is complete; if it has been intense, and the child is ill or of a feeble constitution, it remains for a long time pale and sad.

The spasms return at variable and unequal intervals. They may be repeated fifteen or twenty times in the twenty-four hours, or they may be absent for weeks or even months. Very rarely there is but one convulsion, which never returns; or else, in other cases, there is a kind of a crisis, consisting of several, appearing one after another during several hours, and going away to come on again at a remote interval. Generally the child is seized with short spasms which are separated by several days. Their brevity, the length of the interval, and the slight influence they exercise upon the general health, do not alarm the parents. At the end of a variable time, however, they approach together. They take place every day, then several times in the day. The child's constitution suffers, as is shown by his growing pale and thin; one spasm more violent than the others carries him off, or, debilitated and depressed by their rapid succession, he fairly pines away.

Fortunately this is not always the history of this disease. The spasms, coming on lightly at first, gradually grow in frequency and intensity, then, decreasing, lengthen themselves out, and the malady terminates in recovery. We may, therefore, properly enough recognise three stages—of augmentation, development, and decline—and in most cases it is in the first of these that the termination by death occurs. Spasm of the glottis is a disorder of very early life, attacking children who have not passed their second year. It has been known to occur in the very first days of an infant's life, carrying him off in the course of six weeks, and cases of it after the age of two years are rare and exceptional. Curiously enough boys are much more liable to it than girls, though why it should be so is more than I can tell you. Nervous children who are continually in motion seem to be predisposed to it, though it is found not only in these, and in infants who suffer from rachitis or any other peculiar diathesis, but also in strong and healthy constitutions. It is developed by preference

in the winter—usually from October to March. Cold seems, indeed, to have a great influence over it, for, while frequent in northern countries, it is comparatively rare in southern ones. Dr. Kerr remarks, that there are more cases when the wind is either north-east or north-west than at any other time. The most common of the predisposing and exciting causes, however, is the process of dentition. At this period, you know, great changes are going on in the animal economy, and children are exposed to a great variety of disorders; we are not, therefore, entitled to consider spasm of the glottis as depending on the penetration of the gum by the teeth, but we should rather believe that the organism being in a condition of great and unusual activity, its parts are therefore more likely to get out of order. Unfavorable hygienic circumstances, such as impure air, early weaning, and improper food, rank among the predisposing causes. In some cases there is an apparent want of any exciting cause whatever. The spasm may seize the child during the most tranquil slumber, or while it is reposing calmly in the arms of its nurse or mother. At other times the slightest cause may give rise to the attack of suffocation—such as the noise made by rubbing an article upon a table, the effort of deglutition, overfeeding, constipation, rage, laughter, fright, and moral emotions of all sorts. Barthez and Rilliet say that they have often produced the convulsion in depressing the tongue with a spatula, and were alarmed by the expression of the face and by the apnoea, evidently the results of a violent contraction of the respiratory muscles.

You will have observed from the description that I have given you that the peculiar symptoms of spasm of the glottis are, a sudden attack of suffocation followed by a crowing inspiration, not having any precursory symptoms, and not accompanied by cough. When you have once witnessed it, you cannot very well confound it with any other disease.

It is distinguished from croup by the permanency of dyspnoea in the latter malady, as well as by the hoarse and characteristic cough, the rough metallic sound of croupy breathing, the continuity of the symptoms with their disposition to exacerbations and remissions, the decided febrile movement, and the occasional expectoration of false membranes. None of these symptoms are observed in spasm of the glottis, but, on the contrary, the interval is distinguished by healthy respiration, there is no cough, no fever, no expectoration of false membranes, but there is always a tendency to the supervention of general convulsions. It cannot well be mistaken for whooping-cough, for the sudden suffocation and absence of cough distinguish it clearly from a disease accompanied by a convulsive cough, expectoration, and vomiting. Yet it is fair to remark that the crowing inspiration of the one, and the hoop of the other, are very nearly alike in sound, a semblance easily accounted for when we remember that they spring from the same cause, viz. a more or less perfect closure of the glottis, succeeded by a protracted inspiration.

There is a kind of infantile asthma which may be confounded with it, resulting from compression of the trachea or of the pneumogastric nerves by tumors of different sorts, as occurs, for instance, in tubercular deposit in the bronchial glands. They are known apart, however, by the form and length of the fits of apnoea in the case of abnormal tumors, by the cough, and by the persistence of several symptoms in the interval, making a sufficient distinction from spasm of the glottis. We may have, however, in newly born children, both of these diseases existing at the same time.

When the attack is sufficiently severe to require the services of the physician, the prognosis is at least doubtful. Dr. Cheyne lost one-third of his cases; in the cases of Dr. Hirsch three out of five died; MM. Barthez and Rilliet report that they cured one in nine, and Dr. Hérard one in seven. Out of 289 instances of the complaint collected by Dr. Reid and his German translator, 115 died, making a mortality of forty per cent. If, however, we remember that there are many seizures so slight and imperfect as

never to come under the notice of the profession, we may perhaps be allowed somewhat to reduce our estimate of the fatality of spasm of the glottis. The circumstances which indicate a favorable termination are:—1st. A brief attack limited to a few hissing inspirations; 2d. The preservation of the natural color of the face; 3d. The lengthening of the intervals between the attacks; 4th. A good constitution; and 5th. Proper hygienic circumstances. On the other hand, those which point to an adverse result are:—Protraction and intensity of the seizures, lividity or ghastliness of the countenance, increase and rapid repetition of the spasms, and general convulsions.

Since the time of Dr. Kopp many and conflicting opinions have prevailed as to the pathology of this disease. That physician attributed it to hypertrophy of the thymus gland, but his theory has been clearly proved to be untenable. Other writers have considered that the seat of irritation may be at the nervous centres, or at the origin of the pneumogastrics; and others again refer it to the suspension of the functions of that portion of the eighth pair which is distributed to the larynx. The discovery by Dr. Marshall Hall, however, of the reflex functions of the spinal cord, threw great light upon the true nature of the disorder, and we now consider it the consequence of excitement of the reflex system originating in various organs of the body.

In all uncomplicated cases we find upon dissection no appreciable lesions, with the exception of various alterations which are consequent upon, and not the causes of the spasm of the glottis. Among these secondary changes the most common one is pulmonary emphysema, which was observed in all Dr. Hérard's cases. In the heart we shall probably discover a quantity of liquid venous blood; and there may be more or less serous effusion beneath the arachnoid, accompanied with some congestion of the cerebral substance.

We may, therefore, draw this conclusion, both from the symptoms of the disorder and from the absence of any special post-mortem alterations, that it is a convulsive disease arising from want of harmony in the action of the different respiratory muscles. What causes this condition of things we cannot tell—it is a problem reserved for our successors in future ages, who shall have the means of investigating the profound chemical and vital phenomena that produce all deviations from the standard of health.

In our treatment our first object is to guard against the accession of spasm of the glottis. We should be careful that the child is properly fed, that it respires a sufficient amount of pure air, that cleanliness is strictly attended to, that it is wisely clothed, and that the bowels are regulated. During the course of dentition the state of the mouth will require particular consideration, and all heat and tumefaction of the gums should be removed by frequent and free use of the lancet. Dr. Marshall Hall even goes so far as to say that the gums should be lanced every day.

During the access of the spasm, although we cannot do much, still we can effect something. At the moment that the child is seized it should be raised up, so that it may be able to employ all its efforts in respiration. Cold water should be dashed upon the face, the feet should be bathed in warm water, to which mustard or Cayenne pepper may be added, and smart friction of the limbs with some liniment containing ammonia will be useful. If these means are of no avail, resort instantly to the inhalation of ether or chloroform, which is beyond doubt a remedy of extreme importance.

During the interval, if the child is not robust and healthy, you will insist upon proper hygienic treatment, and will administer cod-liver oil as a tonic, together with some of the antispasmodics, such as valerian, musk, the oxide of zinc, or asafoetida. Change of air also is indicated, and will often surprise you by its beneficial effects. If these means fail, you may increase your doses of the antispasmodic, and may try some of the alterants, such as calomel, or

the iodide of potassium; if, however, the spasms approach more closely together, and the face be congested, the child being otherwise of good constitution, apply one or two leeches behind the ears, and use warm baths, sinapisms, and frictions with stimulating liniments; but in all cases rely upon antispasmodics, tonics, and proper food. Remember that your patient may die of spasmodic suffocation: do all that you can in every way to prevent it; do not mistake the disease for croup, and imagine that you have an acute inflammation to deal with; do not underrate the danger that the child is exposed to because the first attack is slight, for you never can know how severe the succeeding ones may be. And finally, gentlemen, let me impress most earnestly upon you the great necessity and importance of two things—first, of prompt and early medical assistance; and secondly, of close attention to the sanitary condition of a child who suffers from spasm of the glottis.

## Original Communications.

### ANTERIOR SINGLE FLAP AMPUTATION.

By WILLIAM HENRY CHURCH, SURG. U.S.V.,

MEDICAL DIRECTOR, DEPARTMENT OF THE OHIO.

MORE than two years ago, at Bellevue Hospital, I amputated a thigh by what might be called the anterior single flap method. That patient did so well that, upon entering the army, I induced others to assist me in giving the method a more thorough trial, and subsequent experience has been so favorable that I have determined to submit a description of the operation for publication. Having grasped as much of the soft parts as can be held by the left hand, a catling is passed through above the bone, carefully avoiding the principal artery, nerve, and vein. A superior flap is made by cutting downwards and upwards, its length being little less than one-third the circumference of the limb, i.e. if the limb is fifteen inches in circumference; the flap should not be more than five inches in length.

The flap being drawn back by an assistant, the remaining soft parts on the lower part of the thigh are divided down to the bone by one sweep of the knife at right angles with the shaft of the bone, as in the circular operation, it only remaining to saw through the bone to complete the amputation.

The parts are brought together with sutures and adhesive straps, and the stump covered with a light or cold-water dressing.

The supposed advantages of this operation are:—

That, when in coaptation, the cut surfaces are confined to the lower half of the limb.

From the above fact the fluids more easily escape.

The vessels and nerves are divided transversely, and cannot be drawn over the end of the bone.

The bone is not so apt to protrude.

The cicatrix does not come near the end of the bone, which is covered by a thick cushion of muscles and other soft tissues.

The stump is better adapted to the purposes of an artificial limb. I never have yet seen any portion of the flap slough.

For about thirty-six hours after amputation the discharge is very profuse, when it almost entirely ceases.

Should the above assertions prove correct, there is every reason to hope for a more speedy recovery through union by first intention than in either the double flap or circular operation.

The leg may be amputated by dissecting up the anterior flap, when the operation is completed in the same manner as with the thigh.

EMMENATI, O.

# ON THE TREATMENT OF FRACTURES OF THE LEG.

BY A MODIFICATION OF POTT'S SPLINT, WITH CASES.

BY H. RAPHAEL, M.D.,

HOUSE-SURGEON, BELLEVUE HOSPITAL.

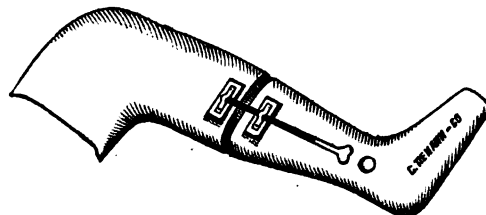
It is now a well established fact that, in all forms of fracture, especially in long bones, the position in which the injured limb is to be placed is of great importance. It has long been taught that extension and counter-extension ought to be applied in fractures of long bones in their long axis, without any regard being paid to the anatomical arrangement of the muscles surrounding the limb.

That any set or class of muscles may by proper management be converted into an auxiliary power in maintaining the ends of a broken bone in apposition, and, on the other hand, by irritation or the like be thrown into convulsive action, is well known; and that the muscles, normally performing the duty of extensors and flexors, may, by irritation of the ends of a fractured bone, act on the fragments, and tend to displace them, is also acknowledged by all. This holds good in almost all fractures of long bones, but in fractures of the thigh and leg, especially when they are usually oblique, these phenomena can be best observed. Every one is convinced how perfectly useless it is to apply a power for the purpose of overcoming an irritated muscle as long as the stimulus exists which constantly urges the muscles into action.

The study of the anatomical arrangement of the muscles of the leg cannot fail to convince us that the application of extension can be of little service when applied in the long axis of a limb placed in a horizontal position; for the very attempt at placing the limb in an extended position places the muscles in a state of tension, and gives them an opportunity of exerting their greatest power of action and resistance. But relax these muscles, and they become incapable of acting on and displacing the ends of the bone, because the muscles themselves, when in a state of laxity, are less likely to be irritated by the fragments. Then, again, the patient will thereby be spared a good deal of pain, and the surgeon will encounter fewer difficulties in reducing the overlapped ends of the broken bone.

Another and equally grave objection to the method of treating fractures of the leg in the extended position is ulceration of the heel, so liable to follow when the leg is allowed to rest on the calf and heel for any length of time. And the tendency of the toes to eversion or inversion when the foot rests on the heel, and subsequently uniting with deformity, these, and many other difficulties, are wholly obviated by placing the limb in the position, and using the splint recommended and practised by Pott. I can use no better language in attempting to recommend this splint than by quoting Dr. Hamilton's remarks on it in the treatment of fractures of the leg. "Without being able, in a case which presents so many forms and complications, to establish any rule of universal application, I nevertheless do not hesitate, after considerable experience, in declaring a plan of treatment which, in my opinion, ought to be adopted with only occasional exceptions, that is, I mean to say, in simple fractures. The plan of treatment to which we chose to give so general a preference is well known as that recommended by Pott, the distinguished surgeon of St. Bartholomew's Hospital, and with only slight modifications it will be found applicable to probably nine-tenths of all simple fractures of the leg, and to some of the compound fractures." The advantages this splint has over other appliances are obvious; as the muscles of the leg are relaxed, extension is more easily applicable; while the leg lies on its outside there is no pressure on the heel, obviating the dangers of ulceration, and the foot is less likely to rotate inwards or outwards. And having used this splint in several cases with the utmost satisfaction, it occurred to me that some improvements might be

made on the original in the way of an extension apparatus. This has been fully accomplished by making the splint in two parts or halves, with an endless screw attached to them, as seen in the woodcut. The splint is well padded to fit



the irregularities of the limb, is placed on the outside of the leg, the thigh slightly flexed on the body, and the leg on the thigh. In this position the upper portion of the splint is fastened either with adhesive plaster or a roller to the thigh and upper part of the leg, while the lower half is secured to the foot and to that portion of the leg below the fracture. Extension is now made by a few turns of the screw, which causes the two portions of the splint to recede from each other, by which means the ends of the overlapped fragments are easily reduced.

I think we may dispense with the inside splint as originally used by Mr. Pott, by making the splint hollowed out or grooved, so as to encircle the limb about one-half its thickness. I will conclude by giving the histories of some of the cases treated with this apparatus, hoping that the final results obtained by it will induce others to try it.

CASE I.—Paul Tomlinson was admitted Jan. 10th with a comminuted fracture of both bones of the right leg. There was great overriding of the fragments and considerable swelling. By the fifth day the swelling had subsided, the leg was placed on the splint, and secured by a roller. And as the swelling rapidly subsided the dressings were tightened, without, however, removing the limb from the splint and displacing the fragments. This splint with extension was kept on to Feb. 5th, when it was removed and a pasteboard splint substituted, the bones being found to have united. This patient was discharged Feb. 20th without the slightest sign to show the point of the fracture.

CASE II.—T. G.—, admitted Feb. 28th with an oblique fracture of the tibia and fibula at the junction of the middle and lower third. As there was but little swelling on his admission the limb was put upon this splint, and secured with adhesive plaster above and below, and evaporating lotions were applied at the point of injury. This splint with extension was kept up to March 25th, when the fracture was found to be united, and the leg was put in a pasteboard splint. Patient left on the tenth of April.

CASE III.—C. McB— was admitted with an oblique fracture of both bones of the right leg in its middle third, the result of direct violence by a heavy plank board falling on his leg. By the time he was admitted into this hospital the leg was considerably swollen and inflamed, which prevented the immediate application of splints. By the fifth day the swelling had diminished to such an extent that the limb could with propriety be put up. The limb was placed on its outside, and secured to the splint, which was retained for twenty-six days. At that time the overlapped ends of the fracture were completely reduced, and union had taken place. Pasteboard splints were now applied, and the patient left the institution two weeks after.

CASE IV.—T. S.— was admitted May 9th with a fracture of both bones of the left leg. The site of fracture in this case was most unusual. The tibia was broken at not more than three-fourths of an inch above the ankle-joint; the fibula about half an inch higher. This case was no less difficult to treat than it was remarkable in point of fracture. As the muscles of the calf of the leg contracted they drew the heel backwards, which caused the lower fragment to bulge out in front to the height of an inch, simulating a backward dislocation of the tibia or fibula from the astragalus. The fracture-box, double and single inclined planes,

were successively tried with pressure on the lower fragment in front and on the upper behind. But the deformity was only increased by the repeated attempts at placing the limb in an extended position. At the suggestion of Dr. Smith, Pott's splint was substituted, with the leg placed in a position that completely relaxed the muscles of the leg, and at the end of three days the displacement was reduced to such an extent that only a projection of not more than one or two lines showed the site of the previous deformity. The bones have now united with no more deformity than that just mentioned.

These cases have been examined by some of our most distinguished surgeons, who expressed their entire satisfaction with the result thus obtained.

BELLEVUE HOSPITAL, June, 1868.

## FOREIGN BODY IN THE AUDITORY CANAL.

By D. B. ST. JOHN ROOSA, M.D.

NEW YORK.

A SOLDIER standing guard before the hospital-tent of a regiment, suddenly felt an insect passing into his ear, and a sensation of pain, causing vertigo, and compelling him to be relieved from his duty. On examination of the ear, as well as the imperfect means allowed, no aural speculum or sunlight being at hand, the presence of a small bug was thought to be ascertained. This was done by one of the hospital attendants, and he attempted to remove it by means of forceps and other dangerous implements. Only more pain was caused, when I was sent for, and ordered the ear to be syringed for fifteen minutes with warm water. This relieved the pain, and the insect was thought to be removed; but as the operations were carried on by the light of one candle, it was somewhat difficult to decide certainly. External otitis resulting from the lodgment of the insect, it was treated by applications of warm water to the auditory canal and membrana tympani; during the acute stages, by counter irritation over mastoid process, and later on, with a mild lotion of plumb. acetat. applied to the membrana tympani. Ten days after the supposed lodgment of the insect, during one of the applications of warm water by means of a syringe, the bug, as it proved to be, passed out, of course long since dead. A slight otorrhoea existing, and the patient having also an ulcer of the leg, on the moving forward of the regiment, I was obliged to leave him at a General Hospital, and hence lost sight of the case.

This case is unsatisfactory from various reasons. The absence of aural specula, which should be in each regimental instrument-case, and my inability to get one made to answer the purpose, prevented a full examination of the auditory canal at the beginning of the case, the only possible time for a satisfactory one, the subsequent external otitis preventing any certain diagnosis as to the presence of the bug.

The application of the forceps to attempt its removal was decidedly wrong, for that instrument should very rarely, if ever, be introduced into the ear for the removal of foreign bodies. Its use is almost certain to excite inflammation, and that of a dangerous character. We should beware of probes, forceps, *et id genus omne*, in our treatment of the ear.

The application of warm water, filling the external ear completely with it at frequent intervals, I consider, with the aid of leeches applied on the tragus in extremely acute cases, the very best alleviator of the terrible pain which is one of the evidences of acute otitis. It is much to be preferred to the application of poultices, which are more apt to lead to such relaxation of the parts as to cause suppuration, and is more convenient and clear. As far as I know Dr. V. Tröltzsch, of Würzburg, Germany, was the first to recommend this remedy as particularly adapted to quieting pain in the ear.

The application of a steady and comparatively large stream of water is the only certain and safe way of remov-

ing foreign bodies, such as peas, beans, buttons, insects, which may be inserted or find their way into the ear.

88 East 22d Street.

## Progress of Medical Science.

PREPARED BY E. H. JAMES, M.D.

AN ESTIMATE OF THE EXTENT TO WHICH HUMAN LIFE HAS BEEN PROLONGED OR ABRIDGED BY OVARICTOMY,

WAS recently the subject for discussion in the Royal Medical and Chirurgical Society of London, introduced by Dr. Robert Lee, who examined the tables published by Dr. Clay in 1860, comprising 567 cases, of which 242 were considered successful, 235 died from the direct effects of the operation, leaving 90 cases concerning which no information is furnished whether life was prolonged or abridged. From this analysis, and the number of unpublished unsuccessful cases he has succeeded in collecting, Dr. Lee "considers it demonstrated that ovariectomy is an unjustifiable operation where the life of the patient is not in immediate danger, and where there is not a great probability of the life of the patient being saved by the removal of the disease." He further stated that his attention had been early called to this subject by a fatal case in which a fibrous tumor of the uterus had been mistaken for a tumor of the ovary, and removed. He had carefully examined every case of ovarian disease that came under his observation, the result of which was that he believed it impossible in any case to determine before actually laying open the abdomen what the condition of the viscera was, and hence it was not justifiable to perform such a dangerous operation at a venture.

MR. MACLEWAIN thought more accuracy in diagnosis was wanted, that the disease should be studied from the laws of general pathology, and that the danger of removing the ovary had been exaggerated. He agreed with Mr. Spencer Wells that the after-treatment, repose, was the Alpha and Omega. Mr. W. had given him the addresses of twelve patients on whom he had operated, ten of whom he had seen, one a young woman from whom Mr. W. had removed a tumor weighing forty pounds, and who was now, with the other nine, quite well. From this he felt convinced that the question of ovariectomy was worthy of most serious consideration, and should not be the subject of mere hostile interchange of opinions; that the facts required could not be gathered by a single person, however large his experience, but that by vigorous action of the Society enough facts might be accumulated in a few years from which more definite conclusions could be drawn. To this end he suggested that the council issue a series of questions for the collection of information concerning these operations.

MR. BAKER BROWN felt extremely obliged to Dr. Lee for bringing this subject so frequently under discussion, for the greater the investigation the greater the elimination of truth. He had frankly published every unsuccessful case in his own practice, and he believed as a rule other ovariectomists had done the same. He had performed the operation fifty-three times during the past twelve years, and the result had been twenty-nine recoveries and twenty-four deaths. The mortality in his practice of late had been very much less than during the first years, there having been in the thirty-one operations performed in the London Surgical Home only ten deaths, and only four in the last fifteen operations there and in private practice. He believed it to be the most dangerous operation ever performed; that he never advised a patient to have it performed, but, after having placed all the facts before her, he left her, assisted by her friends, alone to decide; and although easy of performance, the complications are often of the most serious nature. He considers the most important part of the question that of diagnosis; and although he had devoted more than thirty years of his life to the careful study of the subject, and had paid special regard to the question of diagno-

sis, he unhesitatingly affirmed, that there were no rules that could be laid down so absolute as to enable any surgeon to diagnose with perfect certainty before operation. He therefore hoped Dr. Lee would continue to devote his powers of mind to the solution of this difficult problem, believing that by so doing he would do more good service, and strengthen the hands of the operating surgeon, than by any attempt to discourage ovariectomy. He had, ten years before, operated on his own sister, who recovered, and since married, and had recently given birth to her fifth child; and if occasion offered, he should follow the same plan in any one near and dear to him, believing the operation justifiable, and entitled to be recognised as a legitimate one in surgery.

DR. TYLER SMITH said the peculiarity about ovarian disease is, that, beyond the material abstracted from the system, it is only injurious by mechanical pressure. It does not otherwise threaten life. He therefore did not think it right to operate until the health began decidedly to give way, without waiting until the health was so completely broken as to destroy the chances of the success of the operation. By so doing we run far less risk of peritonitis than by operating when the patient is in robust health. The only evil of delay is the possible formation of adhesions; but even these do not greatly diminish the chances of success. By acting upon these principles he has been successful in twelve out of fifteen cases; and he has only made one error in diagnosis, in which the disease was cancerous tumor of the mesentery.

MR. SPENCER WELLS and MR. CHARLES HAWKINS both spoke in favor of the operation when guided by the principles advocated by Mr. Tyler Smith; and both urged the adoption of Mr. Macilwain's suggestion.

Notwithstanding Dr. Lee's incredulity concerning the propriety of this operation, it has certainly been more successful in this country, as will appear when the subject is brought before the New York Academy for discussion.

Dr. Charles Clay has given to the *Obstetrical Society of London* some statistical observations on ovariectomy, in which he stated that he had performed 109 peritoneal sections, of which 104 were for ovarian extirpation, three for cutting down upon the tumor to establish ulceration where its removal was impracticable, one for Cæsarean operation, and one for the removal of both uterus and ovaries. Of the 104 ovarian cases, 72 recovered, 32 died; all the ulcerative cases recovered; the Cæsarean section lived to the fifteenth day; and the case of the entire removal of both uterus and ovaries recovered. Of the 32 deaths, 10 died from the immediate effects of the operation, 10 from inflammation, 10 from prostration, and two from hemorrhage.

He attributes much of his success to the raised temperature of the room for the operation. He values chloroform highly, but would not employ it if the woman could face the difficulty without it. He operated fourteen times before chloroform was discovered, and nine recovered. He attributes the distressing vomiting in a great measure to the use of chloroform, as he saw but little of it in the fourteen cases where it was not used. For the relief of this he recommends patience until the blood has got rid of its carbon, simple drinks, and as little food as possible. In all cases the length of the incision was commensurate with the tumor to be extirpated, he preferring a large incision to a small one.

DR. LEONARD J. SANFORD, of New Haven, a graduate of Jefferson Medical College, Philadelphia, class of 1854, has been appointed Professor of Anatomy and Physiology in the Medical Department of Yale College, in place of Professor Charles Hooker, deceased.

**GANGRENOUS FLY.**—The inhabitants in the neighborhood of the cemetery of Montmartre, Paris, have suffered from the attacks of a "gangrenous fly," which causes inflammation, mortification, and death within twenty-four hours. Many persons have fallen victims.—*Lancet*.

## Reports of Societies.

### NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, March 11, 1898.

DR. H. B. SANDS, VICE-PRESIDENT, IN THE CHAIR.

#### RHEUMATIC ARTHRITIS OF HIP SIMULATING FRACTURE OF NECK OF FEMUR.

DR. SAYRE presented a specimen of rheumatic arthritis of the hip-joint, which gave very much the appearance of a fracture within the capsular ligament. A few days before he happened accidentally to be present at a post-mortem examination of a man fifty years of age, who had died suddenly of some disease of the heart. Dr. Sayre was struck at first with the position of the right foot, which was everted. On further examination he found the limb about three-fourths of an inch shorter than its fellow, and, though it allowed of free rotation and adduction, the limb could not be adducted beyond a certain point. On opening the joint the upper margin of the acetabulum was surrounded by a prominent ridge of bony material, while the head of the femur was deflected downwards, and was subject to an irregular enlargement. At first Dr. Sayre thought there were evidences of a union of a fracture within the capsule by a line which passed irregularly around the neck a short distance from the head of the bone, but on sawing through the specimen such a suspicion could not be confirmed. He accounted for the shortening either by the deflection of the head of the bone or the enlargement of the acetabulum, which latter condition was sufficient to account for the eversion. The difficulty in adducting the limb was plainly ascribable to the hyperostosis behind the superior portion of the head of the bone.

#### FIBRO-NUCLEATED TUMOR OF RIGHT CHEEK.

DR. SANDS presented three specimens of tumors. The first was removed two weeks previously by Dr. Parker from a gentleman sixty years of age, who carried an enormous growth from his right cheek for thirty years. The tumor at first commenced as a small lump on the right cheek about an inch in front of the angle of the jaw. For a number of years it remained about the size of a walnut, and was freely movable under the integuments. Subsequent to this, until within the past six months, it increased slowly in size. Previous to the operation the tumor had attained a very remarkable size, being of a more or less irregular pear shape, and hanging from the cheek it nearly reached the shoulder, and by its weight alone compelled the patient to carry his head to one side. At the lower and anterior aspect of the tumor was an outgrowth which was somewhat softer than the surrounding parts. At one or two points fluctuation was distinct. At the point of attachment the tumor measured eighteen inches, its largest circumference twenty-three inches, and its weight was five pounds. The operation for its removal was unattended with any difficulty, and the substance of the tumor contained several cysts of various sizes, containing in the aggregate about half a pint of fluid. On microscopic examination the tumor proved to be of that character denominated by Mr. Bennet fibro-nucleated. The appearances were very similar to those presented by fibrous tissue, but the striations were not so well marked. The substance was mostly composed of free nuclei, containing one or two nucleoli, and joined together by a homogeneous substance. These nuclei were uniform in size, were very small, and lay parallel to each other with no tendency to cell formation.

#### CHRONIC MAMMARY TUMORS.

The two other tumors were both examples of what is known as the chronic mammary tumor. The first was removed by Dr. Parker from a married lady forty years of age, with no children, who was in the enjoyment of per-

fect health up to the time of the appearance of the tumor about a year ago. It grew with great rapidity up to the time of its removal, when it measured two inches by three. It was found imbedded in the mammary gland, and was closely connected with it; it was nodulated and hard to the feel. Under the microscope its structure was similar to that of the mammary gland, there being an abundance of well shaped follicles filled with small epithelium.

The second tumor was remarkable for the small size (that of a nutmeg) which it had attained after a growth of eight years. It was removed by Dr. Peters from a married lady, who first noticed its appearance shortly after lactation. It was freely movable under the skin, and exquisitely tender. It measured in its longest diameter five-eighths of an inch, and Dr. Sands thought that it was the smallest one of the sort on record. The largest one that he had seen removed was by Dr. Wood, and that weighed fifteen pounds.

Dr. Wood remarked, that the patient of his referred to presented herself not long ago at the hospital with an ugly-looking cicatrix.

The Society then adjourned.

### NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, Feb. 13, 1863.

DR. JAMES ANDERSON, PRESIDENT, IN THE CHAIR.

#### DISCUSSION ON STRANGULATED HERNIA.

Dr. G. BUCK presented the following account of cases in which the operation of dividing the stricture external to the hernial sac was performed.

CASE I.—Inguinal Scrotal Hernia.—On Saturday, Nov. 8th, 1862, at noon, visited Mr. S—— at No. — Eighth avenue, in consultation with his attending physician. Mr. S—— is a native of Germany, 47 years old, a grocer by occupation, of a corpulent habit, weighing over 200 lbs., addicted to the free use of gin, and of a lethargic temperament.

He was suffering from an inguinal hernia of the right side that had been strangulated for more than forty-eight hours. The tumor was of the size of a cocoa-nut, and distended the scrotum to such a degree as to conceal the penis; the right testis lay at the bottom of the scrotum, in loose contact with the tumor; the left testis was on a level with the middle of the tumor, and on the left side of it. The scrotum, though stretched, was not adherent nor cedematous. The tumor itself was very tense, elastic, resonant on percussion, and not painful when handled. The abdomen was moderately distended, but not tender on pressure. Enemata had been administered, but without producing any evacuation. The pulse was calm and undisturbed.

The hernia had existed for about eight years, and, until recently, had always been reducible. He had never worn a truss, but had supported the tumor with an ordinary suspensory bandage. On the preceding Thursday night he waked out of sleep, and found his hernia had acquired a much increased size, and he could no longer diminish it by his usual manipulations. Early on Friday morning he visited the market, as he was accustomed to do, but on his return home in the forenoon was obliged to take to his bed, on account of the severity of the abdominal pain and vomiting.

Enemata containing spirit of turpentine had been administered, and ice-water applications made to the hernial tumor, but without relief. At the time of our visit, the vomiting having ceased, and the other urgent symptoms abated, it was decided to make further efforts to overcome the obstruction and evacuate the bowels. Compound infusion of senna and repeated laxative enemata were directed.

At midnight I was summoned to operate. The bowels had not moved. Vomiting had returned, and persisted with increasing frequency. In this case it was deemed of special importance to avoid opening the sac, as the exposure of so extensive a surface of peritoneum would have certainly been followed by fatal peritonitis.

The operation was performed as follows, without the

administration of anæsthetics. An incision of five inches in length was made over the line of the axis of the tumor, extending to an equal distance above and below the seat of the stricture. The division of the integument and sub-jacent loose tissues exposed to view the immediate coverings of the sac. These were raised layer by layer, and traced upwards towards the external ring with the handle of a scalpel and the forefinger, till at length a level was reached along which the forefinger arrived at and engaged itself with the nail under the lower edge of the intercolumar fascia, which was very tense, and tightly constricted the neck of the sac. Cooper's hernia knife was conducted flatwise under the stricture, care being taken to keep it parallel to the axis of the body. Its cutting edge was then directed forwards, and, by elevating the handle, was made to press against the stricturing band and divide it.

Constricting bands were felt still higher up and divided throughout their whole extent. At once the hernial tumor began to relax, and a movement of flatus was perceptible within it. The patient himself expressed relief, and soon called for assistance to have a stool. By compressing and kneading the tumor, and crowding its contents towards the inguinal canal, the sac was emptied, except a small portion of what appeared to be indurated omentum.

The wound was closed with four sutures and adhesive straps, over which a compress and spica bandage were applied.

Nov. 9th.—No vomiting, no abdominal pain, no tenderness of the tumor, which is soft and supple. Has had several liquid stools; moderate febrile reaction has taken place; pulse full and about 100.

Nov. 10th.—Has passed a comfortable night. Belly moderately tumid, supple, free from pain. Scrotum, though distended, is soft; its contents are easily displaced by pressure, and pushed back into the abdomen as far back as the adhesions will permit. No tenderness of the parts under handling. Has had several liquid stools; pulse about 100. Ordered pulv. Dover, gr. x.

Nov. 11th.—Patient has vomited; belly and scrotal tumor the same; pulse more frequent. Ordered calomel gr. x., to be followed by ol. ricini 3 ss. in four hours.

Nov. 12th.—Several evacuations followed the administration of the cathartic. A great change has taken place in patient's general condition. The surface is relaxed. Pulse very much increased in frequency and weak. Countenance expressive of exhaustion. The belly and scrotal tumor supple and entirely free from pain; everything is tending to a state of collapse; has vomited once or twice. Directed stimulants, which have been given sparingly during the last twenty-four hours, to be increased ad libitum. Patient has also taken carbonate of ammonia. At 5 P.M. rapidly changed for worse, and died at 6 P.M.

*Post-Mortem Examination, seventeen hours after death.*—Subcutaneous fat over the abdomen of more than an inch in thickness. The sutures still remained in the wound, the edges of which are ecchymosed. The abdominal cavity being laid open, the small intestines were found considerably distended. No fluid in the peritoneal cavity; no recent lymph, nor increased vascularity, nor recent adhesions. On tracing the protruding viscera down into the hernial sac, the internal abdominal ring could be distinctly traced out, and constituted the dividing line between the abdominal cavity and the sac. It was very much increased in its dimensions, allowing four fingers to pass through it, though occupied by the protruding parts. The contents of the sac, which reached the lowest point of the scrotum, consisted chiefly of indurated, thickened omentum, which, when spread out, covered a surface of nearly a foot square. A single knuckle of small intestine lay behind the omentum, collapsed, and presenting no signs of disorganization or of recent lymph upon its surface. The omentum occupying the sac was congested in a moderate degree, but nowhere disorganized or gangrenous. The old adhesion which fastened it to the sac was limited to a narrow band not exceeding two



fingers in breadth, and was situated low down in the sac. The testicle occupying the most inferior part of the scrotum lay external to the sac, showing the hernia to have been of the indirect inguinal variety.

The examination was limited to the parts described.

*Remarks.*—The examination showed conclusively that the operation had perfectly accomplished its object in removing the stricture, such as undue distension, peritonitis, or disorganization. The patient's previous habits of intemperance and excess had impaired his vital powers to such a degree, that they could not rally from the shock sustained by the preceding state of strangulation.

## FOREIGN CORRESPONDENCE.

### LETTER XLII.

By PROF. CHARLES A. LEE.

Rome, Nov. 23, 1862.

THE great hospital of *Santissima Salvatore*, which I visited next, consists of two piles of magnificent buildings, situated on opposite sides of the street leading from the Coliseum to St. John Lateran. It was founded by Cardinal Colonna in 1216, and went under the name of St. Andrew until committed to the present confraternity, from which it derives its present appellation. This religious order, composed at first of twelve noble Romans, had charge of the chapel called *Santa Sanctorum*, near the Lateran palace. The physicians in charge at the time were extremely civil to me, as they have been everywhere, and gave me every facility for seeing and investigating everything connected with the establishment. The hospital is chiefly for females requiring medical treatment, receiving patients of any religion, age, rank, or country. It has, also, a department for those suffering from sudden violent accidents, and a ward for aged females afflicted with chronic disease. It has about 600 beds, and its register shows a greater mortality than any other hospital in Rome, being upwards of 14 per cent. This high death-rate is doubtless owing partly to the insalubrious situation in which it is placed, and partly to its admitting so many aged persons afflicted with chronic and incurable complaints. The principal ward is an immense hall of large proportions, perhaps 300 feet long, and of proportional width and height; the windows, placed high above the floor on each side and frequently opened, allow of the most perfect ventilation. Its ordinary staff consists of two principal physicians and one principal surgeon, with two assistant-physicians and two assistant-surgeons, besides its attendants and dressers, twenty in number. Regular visits are made twice in the day, but physicians are always about the establishment, ready to give their services when wanted. A religious order, called *Cruciferi*, distinguished by a red cross on the habit, attends to the spiritual wants of the patients. In 1821 a community of *Sisters of Mercy*, who had dedicated themselves to visiting the sick in another part of the city, were transferred to this hospital by Pope Pius VII. The same order had important privileges granted to it by Popes Leo XII. and Gregory XVI. The vows of poverty, chastity, obedience, and hospitality, last only for a year, and are renewed at the end of that time; but when its members attain the age of forty they can make the vows perpetual. A large majority of the patients at the time of my visit were laboring under some of the forms of fever, malarious chiefly, but many were cases of typhus and typhoid. The treatment does not vary essentially from that pursued in similar cases in our own country, except that depletion, especially by leeches, is far more frequently practised. A large fountain in the central court serves, not only for the preservation, but also the breeding and multiplication of the leeches.

What strikes an American as somewhat strange is to see so many religious moving about from bed to bed, bringing food or drink to the patients, and soothing and comforting them by constant attentions, kind words, and spiritual ministrations. It is not uncommon to find patients in this

hospital of very great age, several between eighty and ninety, some between ninety and one hundred, and not unfrequently centenarians. Two wards in this hospital are devoted to cases of tuberculosis or pulmonary phthisis, the average age of the patients being apparently between twenty and thirty. As this disease is universally regarded here as *contagious*, they are never mixed up with persons laboring under other diseases, but have separate rooms or buildings assigned them. Most of these cases are brought to the hospital late in the progress of the disease, many in the last stages, often probably for no other reason than that they may have the certainty of enjoying the consolations of religion in their dying moments.

One great recommendation of this noble institution is, that admission is freely granted to all who apply; no restriction, no red-tape, no certificate from a director or recommendation from a subscriber is necessary, as with us. The doors fly open to all who wish to enter; no preliminary examination even is required. Here is the patient, there a bed waiting for him; no hope delayed to make the heart sicker which was sick before. The religious, including nuns and priests, reside within the building, each having their own convent. The expense of supporting a patient here is about twenty-five cents per day. Once a year, on a particular Sunday, a grand procession of the Blessed Sacrament issues from the adjoining Church of St. John Lateran, and, crossing the square, passes through the wards of the hospital, the Sacrament being borne by the Cardinal Arch-Priest of the Basilica, the Pope and all the cardinals assisting. The object of this procession seems to be to have a salutary effect on the sick and dying, and cheer them in their afflicted condition.

Besides the public hospitals at Rome already mentioned, there are several small institutions of a more private nature belonging to different nations and corporations; the Germans, Spaniards, Portuguese, Lombards, Florentines, and Lucchese, have each their separate hospitals. When the late Chevalier Bunsen resided in Rome as Prussian ambassador, he founded a hospital on the Monte Caprino, near the Capitol, for poor Protestants. This is supported by private subscriptions, and such of the patients as are able pay a small sum for their support and medical attendance. The hospital is under the protection of the Prussian Legation, near to which it is situated. The sick ward forms a floor in a large building overlooking the Forum and the Palatine. Murray speaks of it as well deserving the support of Englishmen who visit Rome, "as the only one where poor British Protestants can be received without being subjected to the persecutions of the friars and attendants in the other hospitals, to bring about their conversion to Romanism."

From a careful examination of the subject I am satisfied that there are few, if any, capitals in Europe where the hospitals are more numerous in proportion to the population, constructed on a grander scale, or endowed with more princely liberality, than in Rome. The annual endowment of these establishments is no less than 260,000 dollars, derived from lands, from grants, and from the papal treasury. Formerly administered by separate confraternities, the hospitals were placed by the French government under one general board, as in Paris, from which the best results were obtained; but of late years the ancient system has, in some degree, been restored, each establishment being placed under a separate direction, with a prelate at its head. Such a system is liable to abuses, especially jobbing, as we know from our own hospital experience, but it is difficult to hit upon any plan of management which is not open to some objections. Formerly they were ill administered and badly managed in their domestic arrangements. Considerable improvements have been introduced of late years, but especially since 1849, from diminishing the interference of the clergy and friars, and limiting it to its purely spiritual duties. The late accomplished Princess Doria made great efforts to introduce the French Sisters of Charity into this city, and succeeded to some ex-

ment, although opposed by many of the ecclesiastics connected with these institutions. It would not be just, perhaps, to place the Roman hospitals before those of Florence or Milan, but it is difficult to say wherein they are inferior. It is certainly a somewhat remarkable circumstance that, with such a wide field for anatomical and pathological investigation, the medical school of Rome is behind all the others in Italy, and has not produced a really great man, or even a medical work of superior merit, during the present century; nor is it less surprising that in this great city, the real capital of Italy, there is not a single medical periodical published, nor is there a medical society or scientific association of any description in this enlightened city of nearly 200,000 inhabitants. I have inquired of native Romans the reason of this, and have been answered that no secular societies or organizations are permitted here, on account of the danger of their being converted into political associations and used for revolutionary purposes. Whether this be the true reason or not I do not pretend to decide; but those who have resided here for some time as medical practitioners from other countries assure me that it is the true reason. Great credit is, however, due to the present Pope for the deep interest he has always manifested in the hospitals, prisons, reformatories, almshouses, lunatic asylums, and educational institutions, in Rome. He has made additions to many of the hospitals from his own private resources; some he has entirely rebuilt. He has introduced many important reforms, has suggested and had carried out several new and improved arrangements, and has watched over them all with paternal care and solicitude. He has personally visited and inspected every hospital in Rome, and that, too, at times when his visits were wholly unexpected, so as to learn from his own observation their actual condition. During the prevalence of cholera he fearlessly went among it, visited the cholera hospitals, cheered the patients, encouraged the physicians and nurses, and did much to allay the panic and dread of the disease universally prevalent, and dispel the idea of its contagiousness. If Rome is far behind other cities in many things, as she undoubtedly is, some allowance should undoubtedly be made for the present pontiff, who, with the best intentions and the most benevolent dispositions, is hampered by what he and his counsellors consider the political exigencies of the times.

The *Lying-in Hospital* of Rome, *San Rocco*, is connected with the Foundling Hospital, and consists of one great hall and several chambers, one of which is appropriated to births. It was originally established in 1500, with fifty beds, partly for medical and partly for surgical cases; it was, however, changed from its original destination and converted to its present purpose by Clement XIV. in 1790. It has at present from thirty to forty beds, each bed having a curtain and screen, so that the occupants are not seen by the others. All who apply are received without any questions being asked; some with their faces covered with veils which they are not required to remove. On the register they are only known as guests at a hotel, by their number. No one is allowed, unless by special permit, to enter the hospital, except the physicians, nurses, and attendants. Many are received at a considerable period before their confinement, so that their condition may not be suspected by their friends. If able to pay a small sum they have superior accommodations; and when they are well enough to leave the institution they pass out by a passage in the rear, through an unfrequented street, and thus escape all danger of detection. If they wish to reclaim their children at some future time, some distinguishing mark is put upon them. But the children generally are sent to San Spirito. Usually patients are received only a few days previous to delivery, and they remain on an average about one week after confinement. It is supported partly by its own revenues and partly by the State, like the other public institutions of Rome. Whatever objections may be raised by some against the secret policy pursued in this institution, I am satisfied both of its expediency and wis-

dom, as it leaves open a path to moral and social redemption which a different policy would close for ever. It is a course dictated alike by wisdom and humanity, and no one can justly charge its managers or the State with encouraging vice or immorality, for they act on the well known and admitted principle that the great object of human laws, as well as human institutions, is the reformation rather than the punishment of the offender. A woman may recover character and self respect if she has a fair chance to make the experiment; but what chance has she who is once known and publicly branded as unchaste and the mother of illegitimate offspring, to say nothing of the wretchedness entailed on the child, or the temptations to infanticide?

## American Medical Times.

SATURDAY, AUGUST 15, 1863.

### PROGRESS OF AMERICAN MILITARY SURGERY.

THE war of the rebellion found the medical profession of the United States practically unfamiliar with military surgery. With the exception of the surgeons surviving the war with Mexico, few of the present generation had ever had sufficient experience in military life to have gained a thorough knowledge of the duties of the army surgeon. Our literature of military surgery was limited to English works, and whatever opinions were entertained were drawn from this source. The profession, however, was ripe for the study of this most interesting branch of our art, and it required but the field for labor and the opportunity for investigation to develop a latent power and activity never equalled in the history of medicine. The drama of civil war on a Titanic scale, waged with all the accessories that modern military science could devise, suddenly afforded both the field and the opportunity, and thousands of laborers rushed forward to the work. It will ever be a source of regret that in the excitement of the times, and in the urgent wants of the service, many unworthy and incompetent men found their way to important positions. Foreign medical journalists have taken advantage of this fact, and are accustomed to publish every scandalous item gleaned from newspapers reflecting unfavorably upon the surgeons of the United States army, and hold them up as evidences of the degenerate condition of the profession in this country. But we may safely challenge the Governments of the old world to improvise armies of such magnitude, and supply them with a medical corps from civil life which will present a more honorable record. Whatever may have been our deficiencies in the knowledge of military surgery heretofore, it is now certain that we shall soon, if we do not already, surpass all other nations in our proficiency in this department. This war has called into active service not far from five thousand surgeons. Their duties have been of the most varied and active character. They have followed their commands to the camp, to the field, and to the hospital, and thus have become personally familiar with every branch of the army medical service. But hundreds of practitioners have been compelled by sickness or interest to retire to civil life, and other hundreds have taken their places.

There is therefore diffused through the profession a degree of familiarity with the practical duties of the army surgeon quite impossible to correctly estimate.

It is gratifying to notice the fact that no pains are spared by the Medical Department of the army to encourage the efforts of the army surgeon to improve his knowledge of military surgery, and render permanently useful his investigations. His observations, records, operations, etc., are all carefully preserved, to make up the future medical and surgical history of the rebellion. In the Medical Museum at Washington, already rich in specimens illustrative of the peculiar pathology of military surgery, are preserved all the specimens which the surgeons transmit, with the history of each preparation, and the name of the individual surgeon who presents it to the Museum. Thus from all this vast field, over which is scattered a multitude of ardent laborers, are being garnered the ripe fruits of observation, study, and practice, and we can but feebly estimate their aggregate value.

We may gain some insight into the progress which the medical department is making in the preservation of material from two pamphlets recently issued from the SURGEON-GENERAL'S office. The first is a catalogue of the Medical Museum, and to this we have already made reference. The second is a "Consolidated Statement of Gunshot Wounds," compiled by SURGEON J. H. BRINTON, U.S.V. It embraces a period of but four months, and is in many respects imperfect, yet no one can fail to see of what vast importance will be the aggregate of such facts properly collated. They will illustrate many points now but obscurely understood, and lead to conclusions which cannot be disputed. We shall reserve a critical analysis of this most interesting pamphlet for another occasion.

It must be evident to the most superficial observer that, while the nation is being rapidly educated in military science and art, the medical profession is progressing with equal rapidity in a knowledge of military medicine, hygiene, and surgery. If we continue to improve our advantages, the day is now not distant when we may become the teachers of military science in every branch.

### THE WEEK.

DEATHS in the workroom of a court dressmaker in London have recently awakened renewed attention to the subject of better care of the sanitary interests of the laboring poor. At the coroner's inquest the fact appeared that thirty young women worked from morning till late at night in a close room, and worst of all, that those women were lodged by their genteel employer in apartments just spacious enough to admit two beds end to end, and that each narrow bed had two occupants. "Died of apoplexy," was the verdict; but the coroner very properly replied to the greedy employer's inquiry as to what more should be done for the benefit of the seamstresses, by saying "that was a question for a surveyor." In a recent discourse before the Ladies' Sanitary Association, Dr. Richardson declared that the capitalist who overtasked for the sake of gain was nothing less than a homicide. And it is equally murderous to shut up artisans and employees in unventilated and crowded workrooms.

BITTERLY and very justly does the British medical press

complain that the Home Government continues to neglect the professional and official claims and dignity of the East Indian Medical service. Not only does there appear to be difficulty in amalgamating the medical service of the old East India Company with that of the royal army, but the medical officers of every grade "are snubbed, their pay kept down, their emoluments shaved off, and their social position depreciated." Even the Royal Warrant, with its enlarged but begrudging assurances of assimilated rank and reasonable social respectability, is not recognised in India. The *Lancet* intimates that the medical department of the royal army is compelled by such unpropitious circumstances to let the honor of its famed competitive examinations be borne away by the very "sweepings of the schools." But the *Lancet* boldly charges that it requires the pressure of promises and invitations to get even such candidates, and that to "sham examinations." This sad state of affairs, it is charged, "has been brought about by the ill judged oppression of military chiefs." Thanks to the loyalty and patriotism of the medical profession in our country, such criticism cannot be so justly applied to our army surgeons. The schools have all sent their choicest young graduates into our army and navy; and it will be fortunate for the country and for science if the Secretary of War should become inspired with the lofty sentiments of SIR SIDNEY HERBERT, whose transcendent excellence and genius have so soon been forgotten and dishonored by the official successors of that noble friend of humanity and medical science.

SMALL-POX and other infectious maladies are perpetuated and widely diffused by means of public carriages in this city. The Commissioners of Public Charities have under consideration the question whether special action should not be taken to prevent hackney coaches and public carriages from being occupied by persons suffering from infectious diseases. The Mayor of the city has also called the attention of the municipal government to the subject, at the suggestion of the City Physician. With from fifty to five hundred cases of variola constantly in the metropolis, and with no guards against the unrestrained exposure and transportation of such persons about the city in public vehicles, it is not strange that the loathsome malady is spread to all sections of the country from this city as its perennial nidus.

It is a ludicrous fact that the efforts of Dr. Brady and Sir Fitzroy Kelly, in the British Parliament, to procure the enactment of a suitable sanitary law to regulate and guard the transportation of persons with infectious maladies, has failed in consequence of a clause in the proposed Act, which declares that "in any proceedings, etc. . . . the word *infectious* shall include contagious," and that "every contagious disease shall be deemed infectious." Better to have specified the pestilent infections to be guarded than to attempt such refined definitions. Let the metropolitan district of New York have municipal ordinances prohibiting the employment of public carriages for conveying sick with small-pox, measles, scarlatina, and typhus. Even the lawmakers must learnedly admit that these maladies are "taking," and that restrictions upon them will not be restraints upon the concomitants of "the great social evil" to which the proposed Act of Parliament might have applied.

## Reviews.

**ON THE TREATMENT OF DIPHTHERIA, WITH ILLUSTRATIVE CASES.** By E. N. CHAPMAN, M.D., Professor of Therapeutics and Materia Medica, Professor of Clinical Obstetrics, and Physician in the Long Island College Hospital.

DIPHTHERIA is still the most fatal disease with which the country practitioner has to contend. From every section we hear of its prevalence and its fatality. Individual physicians frequently gain reputation for its successful treatment, but the next epidemic too often proves that their ancient specifics have little virtue. The rational treatment of this disease rests in a correct knowledge of its pathology, and until this is obtained all remedial efforts will be empirical.

Prof. Chapman, a thoroughly practical physician, has given in this pamphlet his views of the pathology of diphtheria, and the course of treatment to be pursued. Discarding the theory of its local character, he adopts in full the opinion that it is as much a blood disease as typhus, scarlatina, and rheumatism. He says:—

"There cannot be a reasonable doubt that diphtheria belongs to this class of blood-diseases. Ostensibly it is an ailment of the throat, attended with inflammation and the effusion from the capillaries of coagulable lymph. So, also, rheumatism presents the appearance of an inflammation of the ligamentous structures; scrofula, of the glands, bones, etc.; syphilis, of the skin, mucous membrane, and periosteum; and variola, rubeola, and scarlatina, of the skin alone, whence they have been improperly classed under the head of cutaneous diseases. The pathology of diphtheria is not elucidated by autopsies, nor by chemical or microscopical examinations. No special structures are invaded, or characteristic lesions discovered; only everywhere is found a dark, grumous blood, filling equally the veins and arteries, and stagnated in various organs. MM. Millard and Peter first pointed out that the blood was of a dirty brown color, resembling liquorice-juice or water containing a mixture of soot. During life there are conclusive proofs, in the malignant cases, of a poisoned, disorganized condition of the circulating fluid—the dark, grumous blood oozing from the tonsils when roughly touched, the spontaneous hæmorrhages, the muscular weakness, the prostrated nerve-power, the clammy sweats, the rapid, soft, and shaky pulse, the sphacelation in the fauces, the sequelæ—anaemia, paralysis, etc.—the gradual sinking of the patient, and the extinction of life without an effort at reaction, or the slightest tokens of constitutional resistance. The evidences of a blood-contamination, equal to those seen in typhus, are infinitely greater than those presented in other diseases now universally conceded to arise from this cause. Chemistry detects no material poison in the air during a diphtheritic epidemic, nor any foreign element in the blood, or any change in its constituents, where patients have died of this disease. The changes, and the agencies producing them, whatever they may be, are inappreciable by this means of investigation."

It will be correctly inferred from the foregoing statements what treatment Prof. Chapman advocates. Stimulants and tonics are his main reliance. After detailing thirty-eight illustrative cases he thus sums the treatment of diphtheria:—

"In the thirty-eight cases of diphtheria detailed above, this alarming disease is presented in almost every varied phase. With a singular uniformity the stimulating treatment, whether in the acute or chronic stage—that of excitement, fever, and inflammation, or of prostration, paralysis, rheumatism, or dropsy—had the same happy effect; and it was in all conditions that had a diphtheritic origin uninterruptedly followed; since we only regarded the causation, not its manifestations—the root of the evil, not its offshoots—and directed our efforts to the removal of a special state of the blood. This state of the blood, which is prone to occur in scrofulous children, or adults reduced by disease or of feeble constitutions, in a certain endemic condition of the atmosphere, is marked by a diminished vital power; which being exalted by stimulants, the symptoms are checked, the

inflammation subdued, the membrane removed, a rapid recovery effected, and relapses prevented. In other words, this plan of medication is radical; strikes at the heart of the trouble; whereas most others that have been proposed are but an ineffectual warfare against symptoms. The blood, which is similarly affected in the mild or severe cases, in the first or later stages, only differing in the degree of its dissolution, alone claims our attention. Against this condition, before the disintegration is irreparable, we bring to bear the most powerful means in our hands to buoy up the constitutional powers, and sustain the activity and energy of each function. The first link in this morbid chain being this retrograde movement in the vitality of the blood, when this is checked, fever, inflammation, hæmorrhage, exudation, collapse, paralysis, dropsy, etc., disappear almost magically, from the simple fact that the cause has been rendered null and inoperative, and the prime pathological change removed.

"Of the remedies that have been employed in diphtheria, two only have proved themselves in our hands worthy of confidence, with the exception, in the chronic stage, in favor of the salts of iron. These two remedies—alcohol or cinchona in one of its forms—are administered in such doses and at such intervals as to secure one effect—the fullest stimulation of the nervous and vascular systems. From clinical observations and therapeutical deductions we arrive at the practical conclusion, that alcohol is not only a stimulant to the system at large, but also to the blood itself, quickening its vital elaborations, and increasing its vital status; through which a direct barrier is thrown in the way of the disease. In other words, the results produced by the disease, and by the alcohol in the blood, being directly opposite, they neutralize each other; and thus the stimulant assumes in our eyes the position of a true remedy, a trustworthy antidote. Hence its medicinal power, being not only remedial but prophylactic, will prevent the extension of diphtheria in the other members of the family, as well as cure the one affected. This conclusion is a necessary sequence; if the pathology of diphtheria and the *modus operandi* of alcohol have been correctly appreciated.

"In malignant cases of diphtheria, we might desire to avail ourselves of a co-operating remedy; of one, like quinia, that particularly excites the great ganglionic nervous centres; by which means we should attain a maximum of power, and carry stimulation to the highest possible degree. The various preparations of the cinchona bark fulfil this indication; and, when pushed to the extent of causing tinnitus aurium, are our most potent nerve-stimulants. Their efficacy is shown in all diseases when the innervation is weakened, disordered, or perverted; in fevers from malaria, in fevers from a blood-poison, and in a variety of morbid conditions attended with an exhausted or defective nervous energy. As a tenderness of the gums is a mark of the saturation of the system with a mercurial, so the ringing in the ears indicates that the brain is fully under the influence of cinchona. Both it and the alcoholic stimulant, whether used singly or united, should be given with regularity and in sufficient doses to obtain their full effects; and then the latter, in a lessened quantity, continued for two or more weeks after the disappearance of the disease and its sequelæ. From the outset to a permanent restoration to health, one, or perhaps both, of these remedies are to be continuously administered.

"In the more tedious cases, that retain a hæmorrhagic tendency, the substitution of a sesqui-salt of iron for the cinchona might, for a time, be advisable, when the peculiar effect of the latter on the brain had been attained. These salts of iron, like the alcohol, increase the crasis and coagulability of the blood, as I have experienced in several instances of internal hæmorrhage; but they affect the body of the blood too slowly to be a trustworthy reliance in acute cases. Their action would be slight short of two or three days; whereas the progress of diphtheria brooks no delay. Indeed, one of my cases was attacked with the disease, although the persulphate of iron, in free doses, had been in use for hæmoptysis for more than forty-eight hours. At least fifteen drops of the muriated tincture, or five drops of the solution of the chloride or persulphate of iron, should be administered every third or fourth hour whenever we desire this peculiar change in the blood; but in chronic cases, with more time at our disposal, the dose may be less; since, usually, our main object is now to remedy the anaemia.

"Most writers insist strongly on the importance of giving large quantities of animal broths to sustain the strength of the patient, and thus enable him to ride out the violence of the disorder. This, as a medicinal means, cannot but be erroneous in

the early stages; since most of the patients are taken while eating heartily of animal food, and enjoying their usual health. We could not expect that nourishment, however concentrated, which did not prevent the accession of a disease, whilst the digestion was vigorous, can cure it when digestion, assimilation, and nutrition, are completely destroyed. The change of our food into the living structures is something more than its ingestion into the stomach or its absorption into the blood-vessels; and nutriment unappropriated can be but an incumbrance—a foreign element—which will be carried off by the kidneys with the effete matters. Most of my patients took little or no nourishment before convalescing, when it was directed for the same reasons that we order it in other ailments.

"It is important to avoid close, hot, and badly ventilated rooms, and secure a free circulation of air. As soon as practicable the patient should be taken out of doors, and no fear need be entertained of catching cold; the disease having no analogy with tonsillitis, pharyngitis, or any other mucous inflammation whatsoever.

"At the present time, the chlorate of potash seems to be the favorite of the hour; but it has, probably, no greater claims to our regard or any more solid foundation for its character as a specific, than iodine or cod-liver oil in the height of their fashion; when it was presumed that tubercles would be absorbed, cavities closed, and, in fine, phthisis cured by the marvellous efficacy of these remedies. Theory was the only foundation on which such expectations were based; as it is for the eulogiums lavished on this new wonder by its advocates. They, observing that the blood, removed from its vessels, is reddened when this salt is added, conclude straightway that we can, by its use as a medicine, supply a lack of substance in the lungs; that its elements being set free in the circulation, the oxygen of the salt will not only fill the place of that which should have been received from the inspired air, but by its excess act as a stimulant, as is observed when this gas is inhaled; and that the chlorine, by its antiseptic properties, will purify the blood, and thus the *materies morbi* will be neutralized.

"My observations teach me that the chlorate of potash is perfectly unreliable in diphtheria; and I am not sure its employment may not be injurious; certainly its irritation when gargled does harm, and if, when received into the blood, it is decomposed, the free alkali will act as a liquefacient, by which means the crasis of the blood will be lessened, and the disease increased. All liquefacients, such as alkalies, mercurials, iodine, etc., are contra-indicated in a dyscrasia like that of diphtheria, since their effects coincide with that of the disease; thus rendering the death of the patient, in all severe cases, more imminent. From experiments made by myself recently, however, it is more than doubtful whether any decomposition of the chlorate of potash takes place in the blood. I had under my care a young man, twenty-one years of age, who had had the morbus cereuleus from birth. The surface of the body was of a purple color, from the faulty aeration of the blood. I gave him 3 ij. of the chlorate of potash in the twenty-four hours on three different occasions; but at each trial, after continuing the salt two or three days, it had to be discontinued from the irritation set up in the stomach and bowels. The blood was not reddened in the slightest degree, a fact brought to the attention of several medical gentlemen; but the urine was very largely increased, amounting to more than twice the normal quantity, and had a specific gravity averaging about 1010, and an acid reaction."

In regard to local treatment PROF. CHAPMAN differs widely from the majority of writers. He says:—

"It only remains for me to say a few words on the local treatment. This is of little efficacy; and should, in our opinion, be limited to demulcent drinks. Of the many external appliances, leeches, which are exhausting, and poultices or fomentations, which invite the blood to the point of their application, are among the most objectionable; but all, of whatever kind, are useless, if not prejudicial. All irritating, astringent, or stimulating gargles increase the inflammation of the fauces, and thus afford a nidus favorable for the effusion of the membrane; but of the many kinds of local medication calculated to spread the membrane and extend it into the rima glottidis, none could have been devised more singularly appropriate than the various caustic substances in use, which not only augment the congestion already existing, but destroy the epithelium of the unaffected parts; and then, frequently, the membrane takes its place, for the same reason that it appears

on the derma where the cuticle has been detached. This, the most simple of all facts, seems never to have attracted any physician's attention. In one of my cases the membrane, two hours after an application of the tincture of iodine, was found extended over two-thirds of the posterior surface of the pharynx.

"In cases where the larynx is not sufficiently implicated to interfere in a serious degree with the aeration of the blood, the general treatment is still to be relied upon as offering the best chance to the patient; but, when at each inspiration there is a forced, though ineffectual, effort to expand the chest, and the skin has a purple tinge, tracheotomy, as a last hope, should be performed in patients over two years of age; whenever, other things being favorable, the exudation is thought not to extend into the trachea."

We have quoted at length the treatment recommended by PROF. CHAPMAN, because of its rational character. It is deduced, we believe, from sound pathological views, and deserves to be most thoroughly appreciated by practitioners. We hope this interesting pamphlet will have a wide circulation.

## Army Medical Intelligence.

SURGEON-GENERAL'S OFFICE,  
WASHINGTON CITY, D. C., August 4, 1893.

SIR:—Upon the last day of every month the Surgeon-General directs that you forward to this office a statement of all requisitions approved by you, varying from the Supply-Table in either kind or quantity. This statement will mention the articles and quantities required, and the reasons demanding such issue.

Very respectfully,

Your obedient servant,

By order of the Surgeon-General.

### ORDERS, CHANGES, &c.

Acting Assistant-Surgeon John N. Lyman, U.S.A., has been appointed Surgeon of the 84 Regiment U.S. Colored Troops, and ordered to report to the commanding officer at Camp Penn, near Philadelphia, Penn.

Drs. William K. De Witt, of Pennsylvania, Henry W. Ducheat, of New York, George B. Parker, of New York, Frank Reynolds, of New York, S. S. Schultz, of Pennsylvania, John H. Doughty, of Connecticut, Nathan P. Rice, of New York, P. A. White, of Massachusetts, and Otis M. Humphrey, of Massachusetts, have been appointed Assistant-Surgeons of Volunteers.

Leave of absence on surgeon's certificate of disability, has been granted to Assistant-Surgeon Alexander Collar, 24th Michigan Volunteers, for twenty days.

Leave of absence has been granted to Surgeon Charles McCormick, U.S.A., for sixty days, and to Assistant-Surgeon A. B. Chapin, U.S.V., for ten days.

Surgeon N. R. Derby, U.S.V., has been appointed Surgeon-in-Chief 6th Division, 16th Army Corps, at Cairo, Ill.

Surgeon J. G. F. Holston, U.S.V., has been relieved from duty at Columbus, Ky., and will report in person at Cairo to Surgeon A. H. Hoff, U.S.V., Chief of Hospital Transports, for such duty in the Department of Hospital Transportation as Surgeon Hoff may designate.

### SPECIAL ORDERS, No. 339.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, July 30, 1893.

Assistant-Surgeon Elbert Rowland, 127th New York Vols., dismissed by Special Order No. 261, current series, from this office, for disobedience of orders in failing to report for medical treatment in this city, is hereby restored to the service, provided the vacancy has not been filled, evidence of which must be obtained from the Governor.

The report of the General Court-Martial in the case of Assistant-Surgeon Cyrus D. Tuck, 9th Maine Vols., promulgated in General Order No. 41, Headquarters Department of the South, dated September 25, 1892, not showing that either the Court or Judge-Advocate was sworn, the sentence of dismissal is inoperative. The offences, however, of which the accused was proved and found guilty, would justify his summary dismissal. The President, therefore, directs that Assistant-Surgeon Cyrus D. Tuck be dismissed the service of the United States, to date from the 26th day of September, 1892.

Surgeon W. D. Stewart, U.S.V., will report in person, without delay, to Brig.-General B. F. Kelly, commanding Department of West Virginia, for duty in that Department.

By order of the Secretary of War,

E. D. TOWNSEND,  
Asst. Adjutant-General.

Leave of absence for fifteen days has been granted to Acting Assistant-Surgeon J. G. Ryerson, U.S.A.

The resignation of Surgeon E. C. Franklin, U.S.V., now on sick leave at St. Louis, Mo., has been accepted by the President.

Assistant-Surgeon T. P. Seely, U.S.A., has been ordered to report to Governor John A. Gurley, of Arizona, at Fort Leavenworth, to accompany his escort to Santa Fé, N. M.

## Original Lectures.

### DISEASES OF THE RESPIRATORY ORGANS IN CHILDREN.

BEING A COURSE OF LECTURES PREPARED FOR DELIVERY DURING THE SPRING  
SESSION OF 1868 IN THE COLLEGE OF PHYSICIANS AND SURGEONS, N. Y.

BY THE LATE

C. VAN ALLEN ANDERSON, M.D.,

PHYSICIAN TO CHILDREN'S DEPARTMENT, DEMILT DISPENSARY, N. Y.

#### LECTURE VI.—PART I.

##### BRONCHITIS AND PNEUMONIA.

THE diseases which we have so far studied belong pre-eminently to early life. They are all in some way connected with the passage of the air from the exterior of the body to the lungs, and with the exception of coryza, derive their chief interest from the part they play in interfering with the functions of the larynx and trachea. We have, therefore, considered their history, causes, symptoms, and treatment, as fully as the time would allow, and have, I think, discovered that their peculiarities are worthy of our closest attention.

The remaining disorders of the infantile respiratory apparatus are not confined to this period of existence, for they occur likewise in mature age. Their lesions are found in the cavity of the thorax; their pathology is well understood, and you have already become acquainted with them under the names of bronchitis, pneumonia, pleurisy, and phthisis. While, therefore, I need not repeat to you what you have already learned, yet the idiosyncrasies of the child's constitution justify me in pointing out to you in what respects these complaints coming on in infancy differ from themselves when they are seen after puberty.

As the three first of these affections differ from each other not so much in their nature as in their location, let us endeavor, in the first place, to understand clearly what we are about by recalling the chief points in the anatomy of the lungs.

They are to all intents and purposes composed of three structures:—1st. The bronchial tubes and air vesicles; 2d. The parenchyma, or connective tissue; and 3d. The pleura, or investing serous membrane.

The bronchial tubes, in consequence of their ramification to all parts of the lungs, have been frequently compared to a tree with its continually dividing and wide-spreading branches. They begin, you know, with the primary divisions of the trachea into the right and left bronchus, and thence dividing and subdividing they finally terminate in the air vesicles, growing smaller and smaller meantime. The trunk of this tree is the trachea, its branches are the bronchial tubes—and the air-cells are the infinite multitude of leaves which seek the invigorating influence of the atmosphere. If we study the development of the lungs in the fœtus, we are enabled to follow the analogy still further; for we shall find a rudiment of the larynx very early in inter-uterine life, from which the bronchi, and at the sixth month the air-vesicles, are produced by a never-ending process of *budding*—arborescent processes all the time spring from one another, until in the course of development the finer tubular branches leaf out into air-cells.

The larger bronchi are composed of a fibrous membrane containing cartilages, a layer of involuntary muscular fibres, and a mucous lining. As the air-tubes become smaller, the cartilages, growing fewer, at last disappear, and the mucous membrane is gradually reduced, so that tubes the twenty-fourth of an inch in diameter have only an extremely thin wall. At the termination of these tubes it ceases abruptly, and the fibrous membrane is continued into the air-cells, which are entirely deprived of the smooth unstriped muscles.

The parenchyma of the lungs is found between the vesicles, and consists of a large quantity of yellow elastic tis-

sue, of the ramifications of the pulmonary artery and veins, bronchial arteries and veins, lymphatics, and nerves. The branches of the pulmonary artery follow pretty nearly the course of the bronchial tubes; ultimately, having attained an extremely minute character, they terminate in a capillary plexus which lies on the wall of the air-cells in the middle of the fibrous tissue: the pulmonary veins arise from this plexus, and, uniting with each other, form larger and larger trunks, which accompany the arteries and bronchial tubes. By this arrangement the venous blood brought by the pulmonary artery to the lungs after having been purified in the parietes of the intercellular passages, returns as arterial blood through the pulmonary vein to the left auricle of the heart. The office of the *bronchial* arteries being the nutrition of the bronchi, they ramify upon the walls of these tubes, while the venous blood is returned by the bronchial veins to the vena azygos.

All of these structures are bound together, and its shape is given to the lung by the investing serous membrane or pleura. The pleura possesses the same character that serous membranes do in other parts of the body; it covers the whole lung as far as the root, and is then reflected upon the parietes of the chest, the reflected portion, or pleura costalis, besides forming the internal lining of the ribs and intercostal muscles, also covering the diaphragm and the thoracic surface of the vessels at the root of the neck.

Now, what I want to impress upon your mind is, the fact that the essential nature of bronchitis, pneumonia, and pleurisy, is the same, and that the differences we observe between them depend on the various structures of the lungs, and not on the constitution of the disease itself. For, if we consider for a moment what we mean by these three words—bronchitis, pneumonia, pleurisy—we will find that they do not convey the idea of three separate and distinct disorders, but rather that of one morbid process—inflammation—manifested either in the mucous lining of the bronchial tubes, or in the highly vascular intercellular tissue, or in the investing serous membrane. But each of these diverse formations has its own laws both of health and disease; and therefore they furnish us with their own pathological results, and with their own peculiar symptoms, although the intimate nature of inflammation is the same in all. If we bear this in mind, we shall be at no loss for our treatment; for instead of trying to recall what is good for bronchitis, and what for pneumonia, we shall rather endeavor to follow out the principles which are taught us by science to be applicable to inflammation in any part of the body.

Inflammation of the mucous membrane of the bronchial tubes, or, in other words, bronchitis, is a disorder which in children is not only very frequent but also sometimes very fatal. It derives its importance not only from the profound effect it produces upon the system in early life, but also from its tendency to spread from the bronchi and air-cells to the parenchyma, thereby producing pneumonia, and from its liability to be followed by collapse of the lung. From the moment of birth to the end of life all are exposed to it, but it requires most consideration in infancy and old age.

The causes that produce inflammation of the air-tubes are much the same in childhood as they are in mature life. As the prolonged action of cold, sudden variations of temperature, and a considerable degree of dampness in the atmosphere, give rise to it, we find it most frequent in winter and spring, when these conditions are most marked. Poverty, also, brings these maladies in its train, as those of you who fill situations at our dispensaries and hospitals will discover hereafter; for the children of the poor are, as a rule, badly nourished, poorly housed, insufficiently clothed, and exposed to great alternations of heat and cold. The occurrence of one attack of bronchitis or pneumonia, instead of preventing subsequent seizures of the same disease, on the other hand predisposes towards them; as do also weak cachectic constitutions, the prevalence of east or north-east winds, disorders of the alimentary canal,



the great changes which take place at the period of den-tition, certain eruptive fevers, particularly measles, and, lastly, some peculiar epidemic influence which at times pre-vails extensively. When from any of these causes there has been inflammation of the mucous lining of the bron-chial tubes, we find the following changes after death on both sides of the bronchial tree: The mucous membrane is reddened by a more or less intense congestion of its delicate capillaries; an appearance early seen in the larger tubes, but difficult to make out in the smaller ones. This redness is distinguished from that due to injection of the subjacent tissues, by its being quite as striking where the membrane passes over the cartilaginous rings as it is in the spaces between them; and when we discover that it does not disappear by washing, we know that it is not owing to the transudation of the blood through the coats of the ves-sels after death. This coloring is more marked in the infe-rior and posterior portions of the lungs.

Although we have no reason to doubt that inflammation produces both thickening and softening of the mucous membrane, we are not able to perceive these alterations in the majority of cases; and all experiments made in order to arrive at a positive result on this subject have been per-fectly fruitless. Neither are we to expect to meet with those ulcerations of the mucous membrane of the trachea and bronchi which are comparatively common in the bronchitis of the adult.

When the attack has been moderately intense, the bronchi usually contain a quantity of transparent viscid mucus, mixed with a greater or less quantity of air-bubbles. If, on the other hand, the disease has been violent, a thicker and more opaque liquid is observed, white or yellowish-white in color, very adherent, containing a propor-tion of pus, or perhaps even consisting almost entirely of pus. These liquids may, however, be reddish, bloody, and have small particles of plastic lymph mixed with them.

In many cases of acute bronchitis another and perhaps more characteristic lesion is discovered—dilatation of the bronchi. An alteration in the calibre of these tubes is observable, either upon one single point or throughout their whole extent. This appearance can be best demonstrated by following their course with a pair of scissors, which will arrive without difficulty at the surface of the lung, when, on opening the tube thus divided, it will be seen to have preserved, or perhaps even to have increased its diameter from one of the primary bronchi until it nears its termination. This dilatation is due to the weakening of the muscular fibres of the air-tubes by inflammatory action, and to the mecha-nical results of the accumulation of viscid mucus within them.

According to the extent of the disease we shall find lesions of the air-vesicles, or, if the inflammation, as is very frequently the case, has seized on the lung-substance, the alterations consequent upon pneumonia. In the former case there is no air in the lung, but it feels tough and solid, and over its surface are scattered a number of small red-dish or yellowish miliary points, which somewhat resemble a deposit of tubercles: if, however, we touch one of them with the point of the knife, a drop of pus exudes, and the spot vanishes. This appearance, however, is by no means common.

As pneumonia is rare as a primary disease in childhood, and most frequently arises from the passage of inflamma-tion from the bronchial tubes and air-vesicles to the sub-stance of the lung, I shall make no apology for speaking of it in connexion with bronchitis. We find in ordinary pneumonia the same conditions of engorgement of red and grey hepatization that we have in the adult, but very often we find them coexisting in the same subject, which is the great peculiarity of inflammation of the lungs in childhood. Double pneumonia is also more frequent in early life; but when only one lung is affected, it is most frequently the right—a rule that applies also, you know, to the adult. Pneumonia, however, sometimes, instead of affecting the whole lung or the whole of one lobe, seizes on single

lobules, and is then known by the designation "lobular," the frequency of which condition, however, has been much exaggerated. M. Bouchut gives perhaps the best descrip-tion of the pathological appearances of this variety: "On opening the chest," says he, "the lungs slightly collapse. They are heavier than the natural state, and offer little cre-pitation. Their surface preserves at the situation of the diseased parts a granite-red tint, which results from the union of a considerable number of reddish spots of different gradations of color. Each spot represents a lobule, the degree of congestion of which is different, and corresponds with more or less partial induration of the pulmonary tis-sue." We have in each lobule, in this variety, the same stages of engorgement of red and of grey hepatization, that we find occupying whole lobules in other cases.

## Original Communications.

### POST-MORTEM

#### EXAMINATION IN A CASE OF CYANOSIS.

By JNO. T. HODGEN, M.D.

IN the spring of 1848 I accidentally came in contact with a child presenting in a marked degree all the symptoms and appearances of cyanosis, and on the fourth day of March, 1863, was called by Prof. John B. Johnson to make a post-mortem examination on the body of the same, then a young lady of 19 years. I received from Prof. J. the fol-lowing history of her last illness:—

She had never suffered from any disease of serious char-acter. She had been, by the constant care of her parents, remarkably careful in all her habits, had all her life avoided active exercise, and was generally comfortable.

Prof. Johnson was called to see her after three days' sickness from severe pain in the head. These attacks of headache not being unusual, no anxiety had been felt in regard to her until the second day, when the mother desired to call a physician, but this was not approved by the patient, who remarked that it was nothing and would soon pass off. When the Doctor first saw her, Feb. 24th, the lips, cheeks, and hands, were of their usual blue color, and cool; eyes injected, and a papular eruption on the fore-head, the centres bright red, and the margins dark blue (this eruption had been present for several years); breath-ing difficult; heart's action frequent and irregular, 96 to 102 per minute; pulse small, and corresponding in fre-quency and irregularity with the heart's action; bronchial cough; the second sound of the heart short; bruit de soufflet distinct on left side, diminishing in intensity in passing to right; intolerance of light and sound; sickness at stomach, and constipation. Directed oleaginous mix-ture, also fluid ext. valerian in case she should not rest. Acidulated drinks and quiet in dark room. Feb. 25.—Had spent a restless night; the bowels had moved; pain in the head still severe; could lie only on the left side; had slight fever. Directed effervescing mixture, and repeated the sedative. Feb. 26.—Pain in the head continues, increased by motion; tongue furred and dry; nausea and vomiting. Directed two compound cathartic pills. Feb. 27.—Bowels have moved; less pain in the head; more quiet; desired to be left alone; no fever; extremities cool; quite weak. Directed elixir calisayæ. Feb. 28.—Pain in the head more intense; nausea, and had vomited two tablespoonfuls of dark blood; sense of suffocation; pulse small and frequent; skin relaxed; mucous râle distinct in left posterior chest; had slept profoundly; intellect always clear. Directed sinapisms to epigastrium, and enemata. March 1.—No motion from the bowels; much as on the previous day, except weaker. Directed carbonate of ammonia, with elixir calisayæ; repeated the enemata. March 2.—Less pain in head; pulse feeble; mucous râle distinctly heard

when standing near the bed; blueness of surface intense; disposed to sleep. Treatment continued. March 3.—Bowels had moved; pain in head less; mucous r le distinct; had vomited three tablespoonfuls of dark blood; nausea continued; pulse feeble and irregular; hands cool and blue; mind clear. Continued stimulants, with wine. Sinking all day; grew rapidly worse, and died at half-past two A.M., March 4th.

*Post-Mortem Examination, thirteen hours after death.*—The skin darker than usually found at that period after death; this discoloration more intense on the dependent parts of the body. General development good; chest small, but regularly formed; little emaciation. Liver large and dark-colored; pericardium containing more than an ounce of serum of normal appearance. Lungs small and dark-colored as those of a subject of sixty, and filled with dark blood. Heart weighing nine ounces, with more than the usual amount of fat on its surface, though not mingled with its tissue; the apex formed by the right instead of the left ventricle, the walls of the right being double the thickness of the left; the ventricular septum incomplete at the upper part, leaving an opening large enough to admit a man's thumb; this opening clearly below the mitral and tricuspid valves. The opening leading from the right ventricle into the pulmonary artery not larger than a goose-quill, with two imperfect semilunar valves; between these (which were united by what should have been their free margins) is the oblong opening before mentioned between the ventricle and pulmonary artery; the walls of the pulmonary artery as thin as those of a vein, and its calibre not more than two-thirds the normal size, and this rapidly diminishing as the branches are given off. The foramen ovale closed by its valve, except at one point, where the valve overlapped the margin of the opening, but left an oblique fissure as large as a crow-quill. The aorta normal in size and thickness, one of the coronary arteries being given off one inch above the free margin of the semilunar valve, the other retaining its valve at its usual place.

## FRACTURE OF THE SKULL

BY BLOWS FROM THE FIST (?)

By ALFRED MERCER, M.D.,

SYRACUSE, NEW YORK.

W., aged 46, of intemperate habits, in an affray with A., aged 26, received injuries of the head at six P.M., Wednesday, July 22d, of which he died on Saturday morning, July 25th, sixty hours after receiving the injury.

A. is six feet high, weighs 160 pounds, has a long arm, and a heavy, bony fist. It is claimed that W. first struck A., and that A. at this time had a common nail hammer in his right hand, which he at once shifted to his left, and then struck W. with his right fist. This is A.'s statement, and it is corroborated by two witnesses who were within a few feet of the parties. W. received three blows. The second staggered him back against a fence; the third brought him to the ground, blood flowing freely from nose and mouth. W. soon recovered himself, and proceeded to finish milking a cow, at which he had been engaged previous to the altercation. He was, however, persuaded to go home, a short distance, to wash himself and change his clothing, which he did. A witness who assisted in this observed no injury about the left temporal region. In the course of the evening he gradually became insensible, in which state he remained till he died.

A surgeon saw him late on the evening of the injury. The left temporal region was very much tumefied, so much so that he was in doubt as to there being a fracture; however, the skull was cut down upon Friday evening, fifty hours after the injury, when a fracture was discovered, with depression of the bone. The trephine was used, and the bone elevated, but there was no mitigation of symptoms. The surgeon could find no breaks in the skin, nor any defined mark of a blow.

Thirty hours after death, assisted by Dr. A. B. Shipman, I made a post-mortem examination of the body. A crucial incision, three or four inches in extent, had been made over the temporal region for surgical purposes. The temporal muscle and the whole temporal region were completely engorged with blood, but there was no special mark to indicate what kind of implement produced the injury. The skull was found fractured in an irregular oval form. Starting just back of the anterior temporal ridge, it extended backwards two and three-quarter inches, and was one inch and seven-eighths in its greatest width, the lower margin of the fracture being three-eighths of an inch above the external meatus. The fracture thus involved the frontal bone, the greater wing of the sphenoid, about half of the squamous portion of the temporal, and the lower anterior corner of the parietal, this fragment being about one inch in length and half an inch at its greatest width. The bones in this circle were broken into eight distinct pieces, none of which were removed in the operation of trephining.

Beyond this breaking in of the bones, a fissure extended backwards through the squamous portion of the temporal bone to the posterior temporal ridge, and another extended nearly to the centre of the supra-orbital plate, starting from its outer posterior angle. A large clot had formed between the skull and the dura mater, extending over the greater part of the side of the head. It firmly adhered to the membranes, which were uninjured, and must have weighed three or four ounces. The brain was perfectly healthy. A little more than a semicircular disc of bone had been removed by the trephine, the coronal suture passing through the disc a little anterior to its centre. The upper margin of the fracture was driven square down on the brain, and these fragments were larger and thicker than the lower ones. The skull, I think, is unusually thin; five of the fragments piled on each other measure the least trifle over a quarter of an inch, though at one point of the fracture it measures about one-eighth of an inch.

Questions might be raised as to the surgical treatment of the case, but more interest is attached to its legal phase—Whether the injury was inflicted by the fist without malice, or with the hammer with murderous intent. Could the fist have produced such a fracture? Could the hammer have done the mischief without causing more injury to the scalp? Can any of your numerous readers, with illustrative cases, throw any light on the subject?

A.'s fist was examined four days after the blows were given. There was a small cut on the knuckle of the middle finger of the right hand, which was large and prominent, and some abrasion of the skin on the first joint of the little finger. At this time there was very little swelling about these injuries. I have seen many worse-looking hands where they had caused much less injury. It is not certain whether these blows were given through a hat. W.'s hat was of pretty heavy straw, and was uninjured. Most likely the hat was off when some of the blows were received.

## CASE OF SUCCESSFUL

## REMOVAL OF FOREIGN BODY IN THROAT

BY TRACHEOTOMY.

By WILLIAM M. McDOWELL, M.D.,

CANTON, FULTON CO., ILLINOIS.

SARAH HANKS, six years old next August, and daughter of Mrs. Ladicia Hanks, a widow of Canton, Illinois, while engaged in recreation at noon with her school-playmates on Wednesday, the 18th of March, 1863, was in the act of laughing heartily, with her head inclined backwards, with a large grain of corn in her mouth; during inspiration the corn passed through the glottis into the trachea, giving rise to the usual alarming symptoms. She immediately fell down with distressing indications of suffocation, frightening her associates, and inducing them to think she was

dying. She was soon conveyed home, and her mother sent for her physician—a Hahnemannian. The means he employed were confined to the administration of sugar-pellicles, hopeful, we suppose, that the grain might be ejected in coughing, and his fanciful agents have the credit of causing its expulsion. The mother becoming apprehensive for the safety of her child from these frequent paroxysms of coughing, called in another medical adviser, who confided in the administration of errhines and emetics. Being ignorant of the necessary procedure herself, and influenced by the pernicious counsels of others, she permitted the little sufferer to remain in this distressing condition until the 31st of March—the fourteenth day of her troublesome affliction—when I was consulted in regard to her condition, and recommended extraction, as the only probable salvation, which from the ravages which had been made was apparently a forlorn hope. The mother informed me she was frequently advised not to permit the operation, as it was extremely hazardous, but, as the child was failing so rapidly, she was willing it should be resorted to, and gave a deplorable history of her condition from the time the corn entered the trachea:—That her voice soon failed to a hoarse, low wheezing whisper; she could not recline in bed, but had to be held up in a sitting posture; was thirsty, and drank frequently, very little at a time, and she was confident did not take more nourishment than two table-spoonfuls of rice, and did not sleep at all during this time; was so irritable when spoken to as to strike at the person addressing her. Paroxysms of coughing and dyspnoea were frequently renewed, and continued for several hours at a time. The child, on the thirty-first, was extremely emaciated and prostrated; pulse feeble and accelerated; eyes dull and languid; face of a pale dusky appearance. Drs. Ingersoll, Martin, Fleming, and Searles were invited in, and one of the number decided against the operation, as in his opinion there was no prospect of saving the child. The remaining four of us decided that the prostration and symptoms of marasmus left scarcely a hope, and, as tracheotomy afforded the only chance, the child should have this, dim as it appeared. Being very irritable and excitable she was put under the influence of chloroform, and an incision was made just below the cricoid cartilage in a perpendicular direction, approximating the top of the sternum, dividing the superficial and deep fasciæ and cellular structure at the junction of the sterno-hyoid muscles; then, with the point and handle of the knife their connexions were separated, and the trachea laid bare. With a small scalpel two rings were opened. On this there followed a discharge of muco-purulent matter tinged with blood. We waited for half an hour, expecting every moment the corn to be ejected, when a director was introduced, and the back of the scalpel glided along the groove, and another ring was severed. The director was moved over the sides and superior portion of the windpipe, and withdrawn with the handle depressed upon the sternum, pressing the instrument moderately in contact with the anterior portion as it was extracted, which brought with it a considerable portion of adventitious membrane and the grain of corn. Laryngo-trachitis had evidently been created by this foreign body, resulting in a pseudo-membranous formation, and the corn may have been resting on it or entangled in it.

But little hæmorrhage was encountered, and as soon as it entirely ceased the aperture was closed with strips of adhesive plaster. The aperture is now closed and healed. The result of this operation was unexpectedly satisfactory and successful. Repose and a vigorous appetite rapidly developed the child's physical condition, and those who had seen her enfeebled and emaciated, in a few days after her relief did not know her, recovery being so speedy. The child is completely restored to health. In connexion with this case we may contemplate two important achievements worthy of favorable consideration.

If we should be called to a similar case, when, from circumstances over which we have had no control, valuable

time has been lost, and the case is apparently beyond the prospect of hope, we should have no hesitation in opening the trachea. The case just narrated affords additional corroborative testimony demonstrating the advantage of tracheotomy for the removal of preternatural membranous formations in laryngo-trachitis.

## Reports of Hospitals.

### GENERAL HOSPITAL NO. 3, LOUISVILLE, KY.

#### BROMINE IN HOSPITAL GANGRENE.

By J. A. DOUGHERTY,

ACTING ASSIST.-SURGEON, U.S.A.

JOSEPH H. RICHARDSON, a private of Co. D, 3d Ky. Infantry, was transferred from Hospital No. 5, Nashville, to this hospital, March 12, 1863. At the time of admission he was suffering pain in the left temple, impaired sight of the left eye, constipation of the bowels, and a feeling of general prostration, the effect, as we supposed, of an attack of erysipelas of the face and neck which he had about the latter part of December while on duty as nurse in Nashville.

He was treated by Dr. Fischer, under whose charge he was placed, and by the first of June was so far improved as to be able to do guard duty at the hospital. He complained occasionally, however, of vertigo, feeling, as he said, as if he were half drunk. July 5th, about five o'clock P.M., while walking in the yard, he fell down in something like an epileptic fit, and was carried into the ward, where he remained for several days in a state of unconsciousness. On the fourth day after the attack, when consciousness had fully returned, he complained of pain and tenderness at a point about three inches below and to the right of the articulation of the lumbar vertebræ with the sacrum. Upon examination, a spot was found about two and a half inches in diameter, of a dark red color, appearing much like an ordinary bed-sore. On the next day, the 5th, the spot appeared somewhat larger, of a darker color, with fluctuation and crepitation upon pressure; dressed with flaxseed poultice. Sixth day.—Fluctuation and crepitation increased; surface black and puffed up; evidently in a state of mortification. Dr. F. laid open the dead mass with a scalpel, when a quantity of foetid gas, with nearly a pint of dark, offensive, watery fluid, escaped. The odor was like that emanating from mortifying parts. He then injected the cavity with a solution of bromine—one part of the compound solution to four of water. Seventh day.—Removed part of the dead mass, and filled the cavity with lint saturated with the compound solution. Eighth day.—Removed remaining mass, and, having obtained some pure bromine, applied it by means of a mop twice a day. When the whole of the dead matter was removed, it left an enormous cavity, little, if any, less than a pint bowl, the whole depth of the glutei muscles having sloughed away, leaving three or four square inches of the ilium and sacrum exposed. Ninth day.—Sloughing seemed arrested over the greater portion of the surface, but at a few points appeared to be still going on. Bromine continued. Tenth day.—Sloughing arrested and granulations appearing. Compound solution of bromine substituted for pure bromine. The general treatment was supporting, and from that time forward the case has improved as rapidly as could be desired, the cavity filling up finely.

Was this a case of hospital gangrene, or of ordinary gangrene and mortification? At first it presented all the features of ordinary gangrene, but after the mortified mass had been removed the surface had the appearance and odor of hospital gangrene. There had been no hospital gangrene in the house for two months, and never any in the ward in which this patient was. The parts might have been bruised while the patient was in the fit. At any rate,

the diseased action seemed to yield promptly to the application of the *pure* bromine as soon as the dead mass was removed.

## Reports of Societies.

### NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, Feb. 18, 1868.

DR. JAMES ANDERSON, PRESIDENT, IN THE CHAIR.

DISCUSSION ON STRANGULATED HERNIA.

(Continued from page 76.)

DR. BUCK—CASE II.—*Inguinal Hernia; Strangulated Stricture of the Sac*.—Thomas Starboard, colored seaman, native of West Indies, 31 years, admitted into N. Y. Hospital on Friday, Dec. 19, 1862, at half-past two o'clock P.M., with a strangulated inguino-scrotal hernia of the right side, of which he gave the following account:—

About three weeks before, and soon after a violent straining effort, he first noticed a small swelling in both groins. That in the right groin increased from day to day. Both could easily be reduced into the abdomen until the preceding Wednesday evening, when patient was unable to replace that of the right side.

Symptoms of strangulation soon manifested themselves, and have continued up to the time of his admission into the hospital. The tumor fills the scrotum and occupies the right groin; the testis lies at the bottom of the scrotum in loose contact with the hernial tumor; a recent chancre occupies the prepuce; and a subcutaneous abscess of the size of a dollar is situated over the neck of the tumor. The tumor itself is very tense and unyielding, though the skin and subjacent tissues covering it are supple and unadherent. The belly is but little distended. At half-past four o'clock P.M., after having unsuccessfully employed the taxis, proceeded to the operation without the administration of anaesthetics.

*Operation*.—An incision four inches in length was made over the axis of the tumor, extending equally above and below the Poupart's ligament, and passing through the abscess noticed above. On reaching the surface of the tumor, the layers covering it were raised at a point below the external ring and successively detached upwards with the handle of a scalpel and the end of the forefinger, until at length a layer was reached, which, on being traced towards the ring, allowed the finger-nail to engage itself under the edge of the intercolumnar fascia which constituted the stricturing part. Cooper's hernia knife was conducted on the finger-nail, and its blunt front inserted flatwise under the stricture, and the cutting edge directed forward, care being taken to maintain the knife in a line with the axis of the body.

The handle being now elevated from the body, the division of the stricture was effected by the pressure of the cutting edge against it. All the stricturing parts being thus divided, the neck of the sac was exposed to view. The taxis was now employed to reduce the contents of the sac into the abdominal cavity, but without success, though the tension of the tumor diminished under the manipulation. A careful scrutiny of the sac detected the existence of a stricture in the sac itself. The seat of it was indicated by a superficial groove or furrow encircling the neck of the sac, and corresponding to a falx-like incomplete septum in its inner surface. The sac was opened to the extent of one inch and a half through the stricture, after which its contents were easily returned into the cavity of the abdomen, and without any direct handling of them.

The wound was closed with sutures and adhesive plaster, over which a compress and spica bandage were applied to complete the dressings. Warm emollient poultices were ordered over the whole abdomen. Pil. opii, No. ij., each gr. j., to be taken immediately, and followed by one pill

every hour. Dec. 20, nine o'clock A.M.—Passed a quiet night; pulse 132; no abdominal tenderness; continue opium. Five o'clock P.M.—A good deal of tenderness on pressure over the right iliac region. Ordered two dozen leeches. Cap. pil. opii No. iij. qu. 3 horas: pulse 130. Dec. 21, nine o'clock A.M.—Is in a state of moderate narcotism; pulse 128. Ordered, in addition to opium, tinct. veratri viridis, gutt. iij. every four hours, to be gradually increased to five drops. The opium and verat. viride to be alternated two hours apart. Dec. 22.—Pulse 120. Continue pil. opii as before, increase tinct. verat. viridis to gutt. iv. every four hours; tenderness of abdomen diminished; wound sloughy; removed sutures. Ordered yeast dressings; three P.M., stopped opium. Dec. 23.—Pulse 108; bowels freely open yesterday. Dec. 25.—Pulse 80; wound doing well; his subsequent progress was favorable, and resulted in complete recovery. Discharged from the hospital.

CASE III.—*Inguinal Hernia Strangulated*.—Philip Pain, aged 50 years, Germany, laborer, of good constitution and habits. Admitted into N. Y. Hospital on Friday, Jan. 9, 1863, at one P.M., with strangulated inguinal hernia of the left side. About two years ago his hernia first appeared, in consequence of a violent effort in lifting. Though he has worn a truss habitually, it has not prevented the occasional descent of the hernia, especially when patient made unusual exertion; he had always succeeded, however, in reducing it himself, even after it had remained down an hour or more. On the day before his admission, while lifting a heavy weight, his hernia was forced down and could not be returned: a feeling of great tension in the tumor and its neighborhood immediately supervened, with pain around the umbilicus, and nausea. The following morning vomiting commenced and continued uninterruptedly. Two physicians had made unsuccessful attempts at reduction by taxis, after which he was brought to the hospital. The tumor, occupying the left groin and scrotum, was of the size of a large goose-egg; the testicle was in loose contact with it at the bottom of the scrotum; the skin at the lower part of the scrotum was reddened but still supple, free from cedema, and unadherent. In handling the tumor a peculiar sensation of crepitation was felt, and even heard, similar to what is noticed in a hydrocele a day or two after it has been injected with iodine. Pulse 85; tongue slightly coated; surface normal. No time was lost in resorting to the operation.

*Operation*.—At two P.M., without anaesthetics. An incision four to five inches in length, extending equally above and below Poupart's ligament, was made in a line with the axis of the tumor, and the successive layers were divided until the intercolumnar fascia was brought into view. It was found exceedingly tense, as it spanned the neck of the sac, and constituted the inferior portion of the constricting part. This was divided by insinuating the hernia knife flatwise under its inferior edge, and then directing the edge of the knife forward against the constricting band. The division was continued in the same manner upwards through the entire constricting portion. The tumor became relaxed, and the crepitus already mentioned was no longer felt in handling it. The contents of the tumor, now only covered by the inclosing sac, were observed to be very firm and fleshy. They could not, however, be reduced by the taxis, notwithstanding the complete division of the superjacent stricturing parts. There remained now no alternative but to lay open the sac, which was done freely. The fluid that escaped was small in quantity. A knuckle of small intestine alone occupied the sac, and adhered to it at its lower part by a small single band that easily gave way on slight traction. The intestine itself was very much thickened and fleshy, and admitted of only a slight degree of compression, to which, no doubt, is to be attributed the impossibility of reducing it before opening the sac. Two spots that could be covered with the end of the finger existed near each other on the surface of the gut, of an indented appearance, and sur-

rounded by a deep red congested color of the bowel. Difficulty was still experienced in attempting to reduce the hernia, and was not overcome until a further incision was made higher up through the neck of the sac. The reduction being accomplished, the wound was closed with sutures and adhesive straps, and the dressing completed by a compress and spica bandage. This patient survived the operation about seventy hours, and died of peritonitis.

At a *post-mortem operation* the small intestines were found adherent to each other and to the abdominal parietes in the left iliac region by recent lymph, which permitted them to be separated by slight traction. After disentangling these parts, the portion of incarcerated gut was recognized as being fifteen or eighteen inches distant from the ilio-cæcal valve; and though no marks of actual disorganization were found, yet this portion and the portion above it for a distance of ten or twelve inches were deeply congested, and at different points presented ecchymotic patches under the peritoneal coat. The knuckle that had constituted the hernia, and which has been already noticed as thickened and fleshy, presented this thickened condition along the line where the mesentery separates to surround the gut. Here an interstitial deposit, evidently of old formation, had taken place, constituting a dense structure, which, when cut into, appeared to be almost of scirrhous firmness. It was this thickened, indurated condition which had prevented the return of the hernia after the division of the stricture, and which had probably been produced by slow inflammation, induced by the repeated descent of the hernia behind the truss.

**CASE IV.—Femoral Hernia Strangulated.—Operation.**—Joanna Shaderwill, 43 years, Germany, married. Of slender, delicate constitution. Admitted into N. Y. Hospital Saturday, Jan. 24, 1863, at one o'clock P.M., with strangulated femoral hernia of the right side. Patient had been aware of the existence of the hernia for about seven months, and, as she supposed, had been able always to reduce it completely. On the Tuesday evening preceding admission, symptoms of strangulation appeared, such as vomiting, pain in the umbilical region, and constipation, and have continued with but little intermission to the present time. On the day before admission the taxis was attempted and persevered in for two hours, patient being under the influence of chloroform, but without success. The tumor spreads out over the inner half of Poupart's ligament, is diffused, and without well defined limits. The skin covering it presents a red blush, and adheres to the subjacent tissues. It is thickened, and no longer can be gathered up into folds between the thumb and fingers. The parts are tender to the touch, and of increased warmth. The belly is moderately distended and supple. The operation was resorted to without further delay, as follows:—

**Operation.**—Patient under ether; pulse 120. An incision five inches in length was made across the tumor, parallel to Poupart's ligament, and continued through the several tissues till the surface of the sac was exposed. All the tissues divided were found infiltrated with coagulated lymph. The upper edge of the incision was next divided at right angles, thus constituting an inverted T incision. This greatly facilitated getting access to the seat of the strangulation, at the upper and inner side of the seat of the neck of the tumor. By dividing successive layers of the sac and tracing them up to the point where the tumor emerges from the femoral ring, the forefinger nail was at length insinuated under the edge of the ring, and served to conduct the probe-pointed bistoury flatwise between the sac and the stricturing ring. The edge of the knife was then directed forward and towards the median line against the stricture, thus dividing it in the act of elevating the knife handle. The end of the little finger was then insinuated in contact with the neck of the sac through the divided structure, stretching and enlarging it. The taxis being tried, produced no other effect than to relax the tension of the tumor. It was now discovered that the sac itself could not be gathered up between the thumb and

finger, nor made to glide upon the parts within, from which it was inferred that adhesions had taken place between the sac and its contents. On opening the sac only a small quantity of turbid fluid escaped. Extensive adhesion, evidently not of recent formation, united the sac to the hernia, requiring great care in separating them. This was effected with the handle of the scalpel and finger-nail, after long and patient manipulation. The hernia itself was of a deep livid red color, and presented several points that were at first taken for perforations. After considerable handling, what lay in view and had been taken for bowel proved to be omentum, which covered and concealed a knuckle of small intestine of the size of the last phalanx of the thumb. This also was very livid, and presented upon its surface a depressed spot of a greyish color, looking very much like incipient disorganization. It was readily reduced. The omentum being unravelled and spread out, covered a surface six inches long and one and a half wide. This was excised, and two fine ligatures applied to the excised edges. With the fore-finger passed up through the crural canal, it was ascertained that everything had been reduced and lay free within the peritoneal cavity. The wound was closed with sutures and adhesive straps, over which a compress and spica bandage were applied to complete the dressing.

**Treatment.**—Large flaxseed poultices to the abdomen ordered. Pil. opii, each of one grain, of which two to be taken at once, and to be followed hourly by one or two *pro re nata*. Jan. 25, ten A.M.—Patient passed a comfortable night; no vomiting; pulse 113, occasionally intermitting; epigastrium tender under pressure. No tenderness in right iliac region. Drowsiness; pupils contracted. Op., gr. xxviii., taken in last twenty-four hours. Ordered one dozen leeches to epigastrium and poultices continued. Jan. 26.—Progress favorable; pulse 106; respiration 11; epigastric tenderness diminished; opium continued. Jan. 27, nine A.M.—Pulse 108; respiration 12. Opium continued. Pus escapes from wound. Removed dressings; applied sol. sodæ chlorat. Nine P.M.—Pulse 130; respiration 13; vomiting of dark-colored fluid. No pain. Jan. 28, ten A.M.—Pulse 128; respiration 10; bowels moved spontaneously; opium continued; wine-whey ordered. Three o'clock P.M.—Vomiting continues. Jan. 29, ten A.M.—Has taken no opium since two P.M. yesterday, except tinct. opii, gtt. xl. Pulse 114; respiration 12; brandy substituted for wine-whey. Introduced a catheter. Jan. 30.—Good night; pulse 102; tongue and surface in better condition; urination less difficult; wound open and suppurating freely. Jan. 31.—Pulse 92; no pain; very little tenderness in the region of the wound. Feb. 1.—Pulse 88; bladder and bowels perform their functions without aid. Nourishment and stimulants given as freely as can be borne. Feb. 2.—Less comfortable; night, pulse 108. Feb. 3.—Pulse 112 at eight A.M.; seven P.M., 124; profuse sweating. Quinine, brandy, and beef-tea ordered. Feb. 5.—Pulse 116; profuse sweating; fever; dark grumous fluid discharged from the wound. Feb. 6.—Growing weaker; pulse 124; vomiting this A.M.; can retain scarcely anything on the stomach. Feb. 7.—Pulse 120, weak; vomiting continues; patient delirious; sweats profuse. Feb. 8.—Some sleep; pulse 128; thready subultus; discharge from wound offensive. Feb. 9.—Pulse 135, hardly perceptible; state of collapse. At half-past eleven P.M. died.

Feb. 10.—**Post-Mortem Examination, sixteen hours after death.**—Rigor mortis well marked. The peritoneal cavity being laid open, the large intestine and also the small intestine, except the ilium, were found much distended; no adhesions except those to be noticed hereafter. No effusion into the peritoneal cavity; no exudation of lymph on the peritoneal surface. The omentum at its inferior portion is gathered up into a band that was found adherent to the margin of the track through which the hernia had descended along the femoral canal. At about eight or nine inches from the cæcum the convolution of



the ilium began to be adherent, throughout an extent of twelve or fifteen inches, to each other and to the parietes of the pelvis around the femoral canal. The moderate degree of traction necessary to disentangle the parts ruptured the gut and allowed the escape of its contents. These adhesions were firm and evidently organized. No escape of fecal fluid had at any time been observed from the groin. The intestinal track through the adherent convolutions was very much narrowed, and had doubtless much impeded the passage of their contents.

**CASE IV.—Strangulated Femoral Hernia.**—Mary G., children's nurse, England, 39 years, widow, mother of one child; was taken on the 14th of January, 1863, in the evening, with nausea and pain in the abdomen and right groin, soon succeeded by vomiting which continued through the night. Her mistress had administered cathartic pills and other remedies, and made outward application for the relief of what she supposed a bilious attack. She was known to have had a rupture in the right groin for several months previous. At eleven A.M. on the following day, when first visited, she was suffering severe pain around the umbilicus, aggravated by paroxysms, and had frequent vomitings. Countenance anxious. On examination, a tumor of the size of a small flattened pullet's egg was found in the right groin, covering the inner half of Poupart's ligament, very movable, allowing the fingers to be insinuated under it; free from adhesions and redness of the surface. Handling causes patient to complain of great tenderness. The belly is soft and supple, pulse 88, surface of natural temperature. Patient for the last few weeks has undergone unusual fatigue in the care of a very sick child, and of late has experienced pain at the seat of the rupture while carrying the child in her arms. To this over-exertion she attributes her present accident. Suffering no annoyance from the rupture, she had never worn a truss. Ordered a bladder filled with cracked ice to the groin, to be continued until two P.M., when the patient was etherized preparatory to a trial of the taxis, and in case of its failure, to an operation. The taxis was thoroughly tried, but without success; the operation was then resorted to.

**Operation.**—An incision four inches long was made across the tumor, parallel with Poupart's ligament; a second incision divided the upper edge of the first through its middle, thus constituting an inverted T incision. The subsequent procedure was the same as in Case IV. After the division of the stricture exterior to the sac, the reduction was easily accomplished. There still remained, however, in the sac a portion of what seemed to be a small process of omentum adhering to the sac.

The sac itself, with its contents, was now pushed back through the crural canal into the abdominal cavity, and left there. The external wound was closed with sutures, adhesive straps, compress, and spica bandage. Flaxseed meal poultice was ordered to the lower abdomen. Two grains opium to be taken statim, and one grain every hour after. Her subsequent process was favorable, and her recovery complete. Within a fortnight after getting about, an inguinal hernia showed itself in the right groin. A truss was adapted to it and worn constantly, with the desired effect of keeping the hernia reduced. About the end of March, patient called to report that the tumor in the left groin, which had remained reduced since the operation, had reappeared, making it necessary to wear a double truss.

**CASE VI.—Strangulated Femoral Hernia.**—Monday, March 23, 1863, visited Mrs. D., at No. 32 Horatio street, a patient of Dr. Sharrock, a hard-working woman, aged 40 years, suffering from femoral hernia of left side, strangulated for about twenty-two hours. She had attended church twice the day before. At about six o'clock P.M. she was attacked with vomiting, which has continued since, accompanied with severe pain, referred chiefly to the epigastric and umbilical regions. The hernia had existed about one year. She had never worn a truss. The tumor had always disappeared in the recumbent position. Four o'clock P.M.—

Countenance calm; pulse 94; temperature natural. Vomiting is provoked by every attempt to drink. Belly supple, not distended; tender on pressure over epigastrium and umbilicus. Tumor of size of half a hen's egg in left groin, covers inner half of Poupart's ligament, movable; its cover supple, unadherent; tender on being handled. Dr. S. had taken a quart of blood from the arm at midnight, had made some efforts at taxis, and had administered opium.

**Operation.**—Administered ether, and tried the taxis thoroughly, but without success. Thereupon proceeded to operate. A single incision, four inches in length, across the tumor, parallel with Poupart's ligament, allowed the sac to be exposed; proceeding then as in Cases IV. and V. the constricting band on the inner side of the neck of the tumor was got at and divided. The end of the finger was then thrust into the crural canal by the side of the neck of the sac, and its dimensions stretched. The contents of the sac were now easily pushed up into the cavity of the abdomen, and the sac itself reduced after it. The wound was closed and dressed as in the preceding case. The after-treatment was also the same. The subsequent progress of the case requires no particular record; it resulted favorably, so that at the expiration of four weeks the patient was allowed to leave her bed and resume her accustomed occupations, with a suitable truss adapted to support the parts.

Of the six cases above narrated three were inguinal hernia in males, and three femoral in females. Three cases, two inguinal and one femoral, resulted fatally. Three cases, one inguinal and two femoral, recovered. In all the cases the division of the stricture exterior to the sac was previously accomplished, but in three only could the reduction of the hernia be completed without opening the sac. Of the three in which the sac was opened, one (inguinal, No. II.) recovered, and two (one inguinal, No. III., and one femoral, No. IV.) died. Of the three in which the sac was not opened, one (inguinal, No. I.) died, and two (femoral, Nos. V. and VI.) recovered. Of the three cases in which the sac had to be opened, the condition rendering it necessary was, in Case II., a stricture of the sac itself, in Case III. chronic thickening of the coats of the incarcerated gut, and in Case IV. extensive adhesions of the sac to the contained viscera. Of the three fatal cases, one of scrotal hernia (No. I.) fell into collapse, and died at the expiration of seventy-two hours after the operation. One of inguinal (No. III.) from general peritonitis. One of femoral (No. IV.) died on the twenty-first day from obstructions reproduced by entangled adhesions of the omentum and several nooses of ilium to each other and to the walls of the pelvis, around the upper orifice of the crural canal. The experience afforded by these six cases may, it is believed, be regarded as favorable to the mode of operation employed. No advantage claimed for the other more usual method, which in all cases contemplates a free opening of the hernial sac, is sacrificed thereby. When it is ascertained, after the previous division of the stricture, that the reduction of the hernia is impracticable, the laying open the sac still remains as our final resource. If the obstacle to reduction is found to be a stricture of the sac itself, this may be divided by a small incision, and the reduction may then be accomplished (as in Case II.) without any direct handling of the bowel or considerable exposure of its surface to the air.

In the other conditions met with in Case III., thickening of the incarcerated gut, and in Case IV., of extensive adhesions between the sac and contained viscera, these obstacles were overcome with no less facility than if the sac had been laid open in the first instance. The great advantage of the method here advocated, when applied to large herniæ, which are often irreducible from old adhesions, cannot be doubted. The liability to peritoneal inflammation from the exposure of so extensive a surface of bowel as is unavoidable in opening the sac, is by this method immensely diminished. In Case I., which was of this class, fatal peritonitis, it is believed, would have been inevitable; and



though a favorable termination did not follow the operation, a post-mortem examination ascertained that there were no traces of peritoneal inflammation.

The most weighty objection made to this method is the danger of reducing the gut, already in a state of gangrene, and thus exposing the contents of the bowel to be extravasated into the peritoneal cavity. If rupture of the gut has already taken place in consequence of gangrene, a corresponding condition of the sac and its coverings will disclose it to the operator, and determine him to lay open the sac and expose the state of its contents. Where, however, rupture has not taken place, and only signs of commencing disorganization are present, we have high surgical authority for returning the gut even in this condition, for the reason that after the return of the bowel within the cavity of the abdomen, adhesions will take place around the disorganized part in advance of its giving way, and thus shut off communication with the peritoneal cavity and prevent extravasation into it.

## Progress of Medical Science.

PREPARED BY E. H. JANES, M.D.

### ASSIMILATION OF THE LACTATE OF IRON.

THE superiority of the lactate over the other chalybeates, in reference to digestion, is the subject of a communication to the *Dublin Medical Press*, from A. Cordier, M.D. Not only clinical observation, but recent physiological facts and experiments, are summoned to prove the eminent value of this preparation. That lactate of iron is formed in the human stomach is proved by digesting for twelve hours, at a temperature of 104°, some iron filings with distilled water and calf's rennet. Hydrogen is disengaged, and lactate of iron formed, it being lactic acid upon which depends the acidity of the gastric juice. It has also been shown that lactate of iron may be injected into the veins in large quantity without producing any accident. It combines readily with the albuminous fluids, and is readily assimilated without fatiguing the stomach, improving rather than impairing the appetite and digestion. Thirty grains of reduced iron, or of the sesquioxide, even when taken at meals, produce diarrhoea and vomiting, which appears to be due to the stomach having first to dissolve and transform these preparations into lactates, while if the lactate is received into the stomach already formed, no such inconvenience follows. Recent experiments have been instituted to ascertain the degree of digesting attending the lactate as compared with other preparations of iron. "One drachm of fibrine, and two and a half of fresh gastric juice of a dog, mixed and kept for six hours at a temperature of 104°, the fibrine is dissolved and completely transformed into albuminose. But if one introduces at the same time any substance antagonistic to the action of the gastric juice, the fibrine is not, or only partially digested. In order to ascertain the degree of digestion, three consecutive tests are employed:—Boiling, Barreswill's liquor, glucose added to Barreswill's liquor. If digestion has been completed, the obtained produce does not coagulate at 212°, turns into deep violet when boiled with Barreswill's liquor, and prevents this liquor being reduced by glucose. But if digestion has not taken place, the obtained produce is not turned into violet by Barreswill's liquor, and glucose readily reduces the liquor." Dr. C. has applied these tests to the different preparations of iron, with the following result:—with lactate of iron, digestion complete; with tartrate of iron and potash, citrate of iron, pyrophosphate of ammonia, digestion well; with three-twentieths of a grain of reduced iron, complete; with six-twentieths, incomplete digestion. These and other experiments are presented to prove that the lactate of iron—especially the pastils of MM. Gilis and Coute—is the most digestible of all ferruginous preparations.

MR. E. J. REYNOLDS read a paper before the Royal Dublin Society on

### WOOD SPIRIT AND ITS DETECTION.

When studying the deportment of various metallic salts with purified wood spirits, Mr. Reynolds observed that when a solution of the chloride of mercury was mixed with a few drops of the spirit, the mixture warmed, and the excess of caustic potash added, the oxide of mercury first thrown down is redissolved with the production of a clear solution. When acetic acid was added in excess to the alkaline solution, a bulky, white, gelatinous precipitate was produced, but slightly soluble in dilute acetic, nitric, or sulphuric acids, though readily dissolved in hydrochloric acid, which appears to decompose it. This precipitate was found to be composed of mercury with an organic body. The only test hitherto proposed for the detection of wood spirit is that generally known as "Ure's test," which consists in simply adding to the suspected spirit powdered hydrate of potash, when, if wood spirit be present, the mixture becomes brown in half an hour. This, though a simple, easy, and correct test, Mr. Reynolds thinks is exposed to a serious objection when applied to the detection of wood spirit in alcoholic tinctures, from the fact that most of them contain some volatile principle extracted from the plant in their preparation, and in distilling a sample for the purpose of applying the test to the distillate, the latter becomes contaminated by the volatile oil being dissolved in the vapor of alcohol, to which, if caustic potash be added, in many cases the mixture assumes a brown tint, owing to the well known action of caustic potash on many of the essential oils. Mr. Reynolds's method is as follows:—A small quantity of the suspected liquid is distilled, and to the distillate a little diluted solution of chloride of mercury added, and, finally, excess of caustic potash. The whole is then warmed, and if complete solution of the oxide of mercury has taken place, divide into two portions; to one acetic acid is cautiously added, which causes the formation of a yellowish bulky precipitate. After a short time the remaining portion is boiled strongly, and a similar precipitate is thrown down, thus proving with certainty that the wood spirit is present. In applying the test, if too much chloride of mercury be added, an insoluble compound will be found, and a negative result arrived at. Mr. Reynolds is persuaded by his numerous analyses that the adulteration of the official tinctures with methylated spirit is carried to a considerable extent in Dublin.

### PECTORAL MIXTURE.

The following, from the *Canada Lancet*, is the composition of the "Acute Pectoral Mixture" so largely employed in the Montreal General Hospital:—Half an ounce nitrate of potash; four ounces vinegar of squills; four ounces paregoric; twelve grains tartarized antimony; and three pints and a half of water. Dose, a tablespoonful, when the cough is troublesome. An excellent and cheap remedy. The "Chronic Pectoral Mixture" is made the same way, leaving out the tartarized antimony.

PROFESSORIAL CHANGES IN BERKSHIRE AND BOWDOIN.—Prof. P. C. Chadbourne, of Williams College, has accepted an appointment to the Chair of Chemistry and Natural History in Berkshire Medical College. He holds a similar position in Bowdoin College, Me.—Dr. C. L. Ford, Prof. of Anatomy in the Berkshire School, and of Anatomy and Physiology in the University of Michigan, has accepted an appointment to the Chair of Anatomy and Physiology in the Medical Department of Bowdoin Medical School, rendered vacant by the resignation of Prof. Coe. Both of these gentlemen carry to their new fields of labor the well earned reputation of ripe scholars, thorough, brilliant teachers, and Christian gentlemen.—*Bost. Jour.*

# American Medical Times.

SATURDAY, AUGUST 22, 1863.

## WAR AND HYGIENE.

THREE hundred thousand lives during the past two years of the war have been sacrificed in battles and by disease—and the sacrifice is not yet ended. Bloody and terrible as this baptism of principles and of States at war has been, and may continue to be, the parties to the contest appear to have carefully weighed the consequences and considered the sacrifices of the conflict, and with consequences all anticipated, they boldly fling into the field nearly two millions of armed contestants as constant forces that shall not be diminished until the struggle is decided. Such a war and such sacrifices give definite and increasing value to the individual life of the soldier.

"To put a soldier into the field," says SURGEON-GENERAL HAMMOND, "costs the government nearly four hundred dollars; should he die, or become disabled in service, a pension is given. Looking at the matter, therefore, merely in a financial point of view, we perceive that it is a subject of serious importance, that every means should be taken to preserve the lives and health of those who come forward to fight the battles of their country."\* Taken in a strictly economic point of view, the cash value of every soldier's life in the loyal army exceeds one thousand dollars, if that life can be preserved at full vigor during the war, or until lost in battle. Such is the simple arithmetic of war. The soldier's health and life become mathematical quantities, are made the basis of grand estimates in levying for recruits and conscripts, and in massing of forces in the field. Sound lungs, strong muscles, nerves well strung, senses perfect, and all functions in healthy action in the soldier, become and are essential elements in the military successes and prowess that crown the national arms. Thus MARS pays homage to HYGIENE.

Life-saving, or its equivalent, health-saving, has become a most important branch in the art of war, and it has its full share in all grand strategic successes. A sickly army is a demoralized army, and must soon become a conquered force. And do we not see in the patriotic gratitude and munificent support that is given to the Sanitary Commission of our War Department, evidence of the enlightened confidence of the popular mind in reference to this principle? Fearfully is the truth on this subject brought home to the people as their choicest regiments return, after only two years' service, reduced ten *per cent.* by casualties of battles, thirty *per cent.* by deaths from disease, and twenty *per cent.* by invaliding or discharges on account of disability. Yet these are about the average ratios of losses; and few are the regiments that after two years' service in this bloody war can muster thirty-five *per cent.* of the men who first entered the field. It is stated that the aggregate of discharges from the service—mostly from hospitals—on account of disability, already amounts to 140,000 of the national forces. All this is a matter of momentous concern to the nation, and to the homes that furnished the volun-

teer soldiers. Thus is brought home the idea of the value and economy of health and lives—the fundamental idea, and the very animus of all true plans for promoting the science and works of Hygiene.

This subject is too vast to allow of full discussion in our columns, but there are two or three practical considerations to which we desire to invite attention.

The Royal Sanitary Commission, in the year 1857, reported to the Crown that "to the State the loss of men by invaliding is the same as loss by death. In either case the expense of obtaining and training a substitute must be incurred. \* \* \* It is obvious, therefore, that the rates of mortality taken alone, represent a *part* only of the loss annually caused in the ranks of the army by disease." Thus with statesmanlike views did that Commission, under the leadership of SIR SIDNEY HERBERT, its Chairman, and also the Secretary of War, set about studying the questions of military and public economy that are concerned in the health of soldiers. In a subsequent report upon army statistics the Royal Secretary concludes by asserting that, "if soldiers die in battle by hundreds, they die in hospitals by thousands. \* \* \* We have shown that the excessive sickness of the army involves a large annual expense; it is evident that the diminution of that sickness will effect a great saving in peace, and an enormous saving in war. For sick men are not only a loss, but an incumbrance to an army. \* \* \* The existence of an army in the highest state of efficiency would give additional security to the country without increasing the cost. \* \* \* War would be waged with some chances of success, and would sooner be brought to a close by such an army than by an army suffering from the diseases that have hitherto infested our barracks and camps." This is the just and reasonable ground upon which, at the present hour, the SURGEON-GENERAL of our army has planted his standard, both as an instructor and chief executor in works and measures for promoting the hygienic welfare of the national forces. In seconding and officially sustaining the vast undertakings of the Sanitary Commission, he has but done justly; for that Commission commenced its work at the opening of the war with SIR SIDNEY HERBERT's views and spirit, and without mandatory power it has laid the basis of the broadest system of scientific and practical inquiries and works that has ever been put into operation. To the patriot, longing for the re-establishment of the national power and the restoration of rightful peace, such labors and their results afford a positive source of reliance, while science and the interests of humanity are to reap richest fruits. It is honorable to the spirit and purposes of our profession, that chief officers of the army medical service cordially recognise and appreciate such sanitary works and labors. We believe the fact will yet be acknowledged, that the men who have thus earnestly studied and successfully labored to promote the national cause, and to save life in this war, have merited the eternal gratitude of their country. And that Statesman or Cabinet Minister who will, like the late MR. HERBERT, boldly become the expounder of the claims and wants of the army medical bureau, will find his championship worthy of the best efforts of the patriot and statesman.

Another point worthy of attention in the progress of the war, is the wide extent to which the knowledge and principles of Hygiene have become popularized, and the lively interest of all intelligent men, in civil as well as military

\* Treatise on Hygiene, with special reference to the Military Service, by WM. A. HAMMOND Surgeon-General, U. S., pp. 13, 14.

life, in the facts and purposes of sanitary science and hygienic improvements. We need not allude to the special causes that produced this result, for they are sufficiently obvious. But it is a result full of promise and significance, which must be followed up by comprehensive plans and earnest efforts of not only the few well known and skilled hygienists, but by the organized masses of the medical profession. The people have begun to appreciate the priceless value of human life; and the vocabulary of sanitary knowledge, and the elementary facts of hygiene, are becoming familiar in every household. Our medical schools have each a professor for instruction in military hygiene, and every practitioner of medicine finds himself invited to be a private teacher of sanitary science in the homes of the people.

### THE WEEK.

THE great increase of mortality in this city during the last few weeks is justly exciting public alarm. The number of deaths was at one period nearly double that usually reported. As usual at this season of the year sunstroke is frequent among laborers, and has this year been unusually fatal. But the real increase in the mortality list is due as usual to the large percentage of deaths among children. Cholera infantum, convulsions, and allied infantile diseases, have remorselessly swept off the generation under five years of age. It is evident New York is annually becoming less and less habitable by children during the summer months. The long accumulating heaps of garbage at this period undergo rapid putrefaction, and saturate the air with their poisonous emanations. Atmospheric changes usually combine to depress the system, and hence the hygienic conditions surrounding the city poor, in August especially, are such as to increase the mortality to a fearful extent. The new City Inspector has made a most commendable effort to clean the streets, but it is questionable if more harm than good is not done by stirring up those compost heaps during the hot weather. We can never hope to see a proper state of the public health of New York, until the streets, areas, lanes, etc., are daily cleaned.

WE would call attention to the series of resolutions from the Kings County Medical Society, which are to be found in another column. The ground taken by this body is a very just one, and claims the serious attention of the entire profession. There is an absolute need for reform in the system of dispensing drugs, as practised by the majority of druggists in this and other cities, and we are glad to see that a step has been taken in the right direction. The practice of prescribing from behind a drug counter is very prevalent among a certain class of unprincipled individuals, and no one can for a moment doubt the propriety of striving to prevent it. Not only is it an injury to the community by trifling with their dearest interests, but the profession is directly outraged by the false foundation it is placed upon by incompetent pretenders. The community are too apt to look upon apothecaries to be as thoroughly qualified to give advice as to dispense medicines, and we regret to be compelled to say that there are too many who are willing to take advantage of this credulity. This practice, too, throws reflection upon the respectable class of apothecaries which we have among us, and it is due to them as

well as to the medical profession, to use every legitimate means to discourage and discountenance it.

This, however, is only one of the features in the resolutions; there are others of equal importance to which we refer our readers. We hope the example set by this Society will be followed by others, and some measures finally be agreed upon whereby the evils may be remedied.

WE conclude in this issue the remarks of Dr. Buck on the subject of strangulated hernia, as made at a late meeting of the New York Academy of Medicine. They are exceedingly well digested, and, coming as they do from one of our most prominent surgeons, we hope they will claim the attentive perusal of all interested in operative surgery.

## Correspondence.

### STIMULANTS IN THE ARMY.

[To the Editor of the AMERICAN MEDICAL TIMES.]

Vicksburg, August 1, 1868.

SIR:—In your number of July 11th, I was gratified to read a discussion on the subject of the use of alcoholic stimulants in the treatment of pulmonary diseases. Also an editorial by yourself, headed "An Indolent Profession."

The subject first mentioned, as you justly remark in another place, is of great importance in its relation to the habits of the people. Unfortunately the discussion of this and similar questions is sure to be influenced by the habits and preconceived notions of the disputants. Dr. Davis, of Chicago, whose advocacy of total abstinence is well known to the public and to the profession, shows by statistics that tuberculosis is very common among those who have used alcoholic drinks as a beverage or a medicine; while not one of Dr. Flint's cases, sixty in number, acquired a craving for stimulants. Dr. Parker cautions us strongly against the practice of whiskey-drinking, and Drs. Blakeman and Post give cases in which the habit of intemperance was formed from the prescription of the physician. These habits were followed by an ignominious death and a dishonored grave. I suppose that any physician in general practice, who did not use these stimulants himself as a beverage, would give the same testimony. I am sorry to hear you say that habits of intemperance are increasing rapidly amongst the people. During the last two years I have lived pretty much amongst the camps, and know but little of the condition of society. My life in the army has, however, given me an opportunity of making observations on the use, medical and general, of these stimulants among soldiers.

The appetite for stimulants in this department is certainly very strong, and is due, perhaps, first, to the effects of the intense and prolonged heat, producing great prostration; second, to want of variety in food; and, third, to the active agency of the malaria so common in this district. The intense heat calls for stimulants; the uniform rations, generally very salt, call for drinks, as does the free and general perspiration induced by the heat. The continued cause of poison by malaria, producing diarrhoea, gastralgia, mental, moral, and physical depression, seems to call imperatively for alcoholic stimulants. And what are we to do? The remedy is often at hand, and the relief, though temporary, is immediate. With the idea of a malarial influence entering the system through the digestive organs, I early adopted the plan of using freely vegetable acids, particularly citric, as a beverage. I found that the water which I drank was corrected by it,

the gastralgia and sense of prostration relieved, while the frequent recurring diarrhoeas were often prevented or cured. In charge of a large hospital at Grand Gulf, I recommended this practice to my medical staff, and they adopted it both individually and in their practice. Without it the water we drank would often produce diarrhoea in less than an hour. Surgeon Roberts, of the hospital-boat belonging to the marine fleet, has adopted the practice, and has his officers and patients freely supplied with lemonade made of citric acid, sugar, and water. Several surgeons in the field have informed me that they do the same thing in their regimental hospitals, and all with good effect. It is very common amongst the officers of the army, especially in the Southern Department, to carry with them a supply of what they call "good old Bourbon," which they imbibe stately, in quantities proportioned to the sensibilities of the stomach, as a prophylactic. They often, in addition to this, carry with them a quantity of morphia or pulverized opium, which is to be used as a *dernier ressort*. Now, I have found that whenever an officer with these habits contracts diarrhoea or fever, it is ten times more difficult to stop it and cure him than it is to cure the same disease in one that does not use that prophylactic. The truth is, the evil in these prophylactics, to wit, the subsequent prostration of the stomach and other digestive organs, quite overbalances the temporary good obtained. To secure good health, and prevent the accession of disease, good and continuous digestion is necessary. This is sure to be interrupted by the aforesaid prophylactics. In my opinion, the only way to prevent such prostration following the use of these stimulants, is, to take them in small quantities, and always accompanied with some article of nutrition, such as milk, soup, bread or crackers, and cheese, or something of the kind. In that case the stimulant acts as a digestive, and the prostration which would have followed its use is prevented by the absorption of the nutritious matter. But I have strong doubt of the propriety of using alcoholic stimulants in any case as prophylactics. The remedy, in its effects, too often becomes worse than the disease.

*Alcoholic Stimulants as Medicines.*—I claim the right to use any article I can find in the animal, vegetable, or mineral kingdom, as a medicinal agent; but I would use these remedies with great caution, and always with the same restrictions that I administer narcotics and cerebral stimulants generally. I have accomplished great good by the judicious use of alcoholic stimulants in the hospital practice of the army. Convalescence from typhoid fever is often best treated by the use of these stimulants, and debility from various other causes may be removed according to the principles above suggested. The fact should always be kept clearly in mind that a stimulant is not tonic, but exhausting, unless followed by an improvement in the digestive organs. The physician at the same time is bound to respect the organization of his patient, and not (if possible) in curing him of one disease, lay the foundation of another and worse one.

Finally, I am surprised to hear you speak of an "indolent profession," and complain that medical men do not contribute to the literature of their profession. I supposed that your columns were continually supplied with original articles, both from the army and from private practice. I seldom see a medical journal, and cannot judge for myself. I know there are large numbers of well educated literary men in the army who, no doubt, daily record what they see and practise in camp and hospital. These things will be published "when this cruel war is over." The Surgeon-General has taken measures, which will, no doubt, be effective, to secure an official record of the Medical Department of the Army in good form and due time. Gentlemen are, probably, occupied with these compositions, and contribute less to the journals than they otherwise would. In my opinion, a good record of military surgery is all that has been wanted to bring the medical literature of this country up to the European standard. This is now being done,

and henceforth our medical, like our monetary resources, will not depend upon foreign speculators.

Yours, etc.,

JAMES BRYAN, *Surg. U.S.V.*,  
*Department of the Tennessee.*

## THE PATHOLOGICAL ANATOMY AND TREATMENT OF SUN-STROKE.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—The occurrence of so many cases of "sun-stroke" among us renders it important that the profession, as a whole, should *agree* as to the best mode of treating it. Occurring, as it does, suddenly, it behoves everyone to be prepared to meet it by prompt medication. In order to do this intelligently we should first make up our minds as to the actual lesions which exist—in other words, What is the pathological anatomy of the disease? As one intensely interested in the subject I have consulted numerous authorities for a satisfactory explanation of the problem, and am free to confess that I am as much in the dark as ever. Have not some of our savans, our pathologists, studied up this subject sufficiently to give an answer to my query? The treatment for this accident is very variable, and generally consists in modifying the effects of the shock by administering stimulants, and applying cold to the head. I know some have bled patients with sun-stroke, and have also given emetics, but I am only too glad that I have not to be burdened with their consciences. I have learned that ice applied freely to all parts of the body has been attended with a good result, and, in want of a better remedy, I think I should try it in the first case that may unfortunately fall into my hands. The question of the treatment, and of the pathological anatomy, should be settled, I think, at once, and for that reason I would solicit information from some of your many talented contributors.

Yours, etc.,  
G.

## SARRACENIA PURPUREA IN SMALL-POX.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—Having noticed an article in your periodical relative to the use of the pitcher plant as an abortive remedy, as well as a prophylactic and palliative in the treatment of variola, I will, with your approval, give some of my slight experience in the use of the drug.

Whilst I was physician to the Small-Pox Hospital, Blackwell's Island, &c. during the three winter months of 1862-3, I was visited by a person from Nova Scotia who pretended to be the one who first introduced the remedy to the public, he having obtained a knowledge of it from a tribe of Indians with whom he was in great favor. He said it had proved itself worthy of the utmost confidence amongst his people, and gave several cases which I thought were, or might as well have been, treated by the expectant plan.

I also have a letter from F. W. Morris, M.D., of the same place, physician to a dispensary in Halifax, who says in regard to it, "If given at any time whilst there is yet any power for reaction, I believe it will never fail to cure. \* \* \* In the language of the Micmac Indians, it kills the disease. It is of so mild a nature that the smallest infants may take it with perfect safety."

I think, judging by the cases I have heard related, that the remedy has been given, if administered successfully, either in cases of varioloid or in those of discute small-pox before the third day, and the subsidence of the febrile movement that always occurs about that time has been ascribed to the medicine.

The following is a copy of notes taken at the bedside of one of my patients, though they are not exactly such as I could wish:—

Agnes Jones, aged 19, a native of New York, was admitted into this hospital Jan. 14, 1863. She is of the sanguine temperament, and apparently has a strong and vigorous constitution. Her habits have been good, and there

has been no illness of any kind affecting her up to the present time. She is unmarried, and has lived in the country for the last few months, serving as a domestic, but returned three weeks ago to this city, and has since resided near Sixth Avenue, in Sixteenth Street. She was vaccinated five or six years ago, but the operation was unsuccessful. She does not remember any previous insertion of the vaccine virus, nor any recent exposure to the variolous poison. On the morning of the 9th inst. she had malaise and a bad taste in the mouth, and soon afterwards a chill, followed by nausea and emesis, the last of which continued to trouble her at intervals throughout that day and night. She had also a severe supra-orbital headache and pain in the side and lumbar region, and was affected with thirst, constipation, a moist, hot skin, and anorexia. On the evening of the 11th some small red papulæ made their appearance upon the arms, and a physician was called, who pronounced it hives, and prescribed some Seidlitz powders. These, however, did not check the eruption, and it continued to spread until it had covered the whole body. She now has a moderately full and forcible pulse of 94; the skin is moist and warm; eyes injected and watery; a yellowish moist coat upon the tongue; some thirst; urine high-colored, and passed at the rate of twenty-eight ounces in twenty-four hours. The menses commenced to flow on the 10th, and continue yet. She has been affected with complete insomnia and restlessness for the last two nights. The eruption is vesicular and confluent, and upon the arms in several places forms blebs. In the pharynx it is abundant, giving dysphagia, cough, etc. In the lungs there is a subcrepitan râle. Prescribed *infus. sarraceniz purpureæ radialis* (3i. to Oj.),  $\frac{3}{4}$  iv. every fourth hour, and an infusion of the dregs as a lotion for the face, and as a gargle. Her diet consists mainly of beef-tea, eggs, and milk. Jan. 15, eight A.M.—Pulse 90, and of normal fullness and force; tongue unchanged; there is some thirst and considerable nausea; diaphoresis is increased; urine more transparent, and she has passed thirty-seven ounces since eight A.M. yesterday; constipation, heat of skin, and insomnia, continue. Nine P.M.—Pulse 100, and smaller; the vesiculæ are mostly changed into the pustular form, and are umbilicated. There is tumefaction of the face, and pain in the back and limbs. Jan. 16, eight A.M.—Pulse 100 and full. There are insomnia, constipation, thirst, severe pain in the lumbar region, a white tongue, anorexia, and a moist hot skin. There have been 36 oz. of urine passed. Nine P.M., she has had an alvine evacuation; pulse is 104; menses flow yet. Jan. 17, eight A.M.—Pulse 112; she has some thirst and pain in the chest, and the mouth is lined with pustules. She has passed 40 oz. of urine. Jan. 18.—Pulse is 124, and moderately full. The tongue has a brown, dry coat, but there is no pain, and she obtained some sleep last night; constipation and slight thirst exist; she has passed 28 oz. of urine. Nine P.M., pulse is 130. Jan. 19.—Pulse is 134, and rather small and weak; tongue unchanged since yesterday; constipation, thirst, and anorexia, continue. Prescribed whiskey  $\frac{3}{4}$  j., beaten with eggs and milk, and tr. aconite, gtts. iij., every four hours. Nine P.M., gave her tr. hyosciami to produce sleep and quiet irritation, also ol. ricini  $\frac{3}{4}$  j. Jan. 20.—Slept well last night, and now has no thirst; pulse is 130, and moderately full. The tongue has a thick, white, moist coat; there is severe angina, so that liquids return by the nose on deglutition. She had an alvine evacuation this morning; ordered chlorate potassa gargle, and fomentations to the neck, and whiskey  $\frac{3}{4}$  j. and tr. hyosciami  $\frac{3}{4}$  j. every four hours. Nine P.M., pulse 132; no pain. Jan. 21.—Pulse 138, and small; tongue brown and dry; subsultus tendinum; thirst and mild delirium; areola not very dark; no diminution of tumefaction. Seven P.M., she has been troubled with rigors; the tongue is dry, and urine turbid and high-colored. Pupils normal, and there is no photophobia, but some cephalalgia; gave her whiskey  $\frac{3}{4}$  jss., and tr. hyosciami in the same dose and frequency as heretofore. Jan. 22.—She has pneumonia. Pulse 126, and small; tongue dry; talks rationally, and says she has no pain.

Ordered spts. eth. nitrici et tr. hyosciami,  $\frac{3}{4}$  ss., 3 j., and whiskey  $\frac{3}{4}$  j., every four hours, each dose containing grs. ij. quinine; also fomentations to the thorax. Jan. 23.—Pulse 112, and fuller; tongue more moist; areola bright; delirium continues. Medicines continued. Nine P.M., pulse 122, and small, and the tongue is dry. She had a dejection this evening. Jan. 24.—Pulse 132, and small; no pain expressed. Nine P.M., pulse 132. Has evacuated the bowels and bladder. Prescription as before. Jan. 25.—Pulse 138, and small; tongue dry; muttering delirium; urine scanty. Nine P.M., pulse 150, and she is moribund.

The *sarracenia purpurea* was used in three other cases (one of *rubeola*); but without wearying you with the minutiae, I will simply say the results obtained from it were like those in the case already described, viz. diuresis and diaphoresis, and the patients recovered, just as they would have done if the remedy had not been administered, there having been no abridgment of the malady.

Yours, etc.,

H. G. OLMSTED, M.D.

BELLEVUE HOSPITAL, New York, Aug. 12, 1868.

## APOTHECARIES AND THEIR RELATIONS TO THE MEDICAL PROFESSION.

At a meeting of the Kings Co. Medical Society, held July 14, 1863, the attention of the Society was called to the censurable course pursued by some of the druggists of the county. It was stated by several of the members that these gentlemen were in the habit of commenting upon prescriptions to the disparagement of physicians, substituting other articles for those prescribed, and not unfrequently renewing the prescriptions without the knowledge or consent of the attending physician, and that they were in the habit of prescribing for patients. For these, among other reasons, a committee was appointed, who made the following report, which was adopted:—

*Whereas*, It is eminently desirable that the art of prescribing and dispensing medicines should conform, as far as possible, to scientific accuracy; therefore,

*Resolved*, That the Medical Society of the County of Kings recognises the fact that physicians should be scrupulously careful in writing their prescriptions distinctly, and that they should use, as far as practicable, official names only.

*Resolved*, That it is the duty of dispensing apothecaries to put up prescriptions distinctly as directed, or to reject them, excepting, however, when there is cause to suspect a mistake; in which case, it is manifestly the duty of the apothecary to assure himself of the intention of the prescriber, before dispensing the prescription.

*Resolved*, That the practice which some apothecaries indulge in of treating cases of disease constitutes quackery in its worst form, because of the false confidence which their semi-professional character inspires in the minds of the people.

*Resolved*, That recommending nostrums, prescribing, criticising prescriptions, or otherwise indulging in conversation tending to impair confidence in the author of a prescription, substituting other articles than those directed by physicians, keeping incompetent clerks, dispensing medicines of bad quality, repeating prescriptions against the expressed wish of the prescriber, and habitual carelessness, are all disreputable practices; and it shall be the duty of the members of this Society, who may hereafter become cognisant of such conduct, to report the same to the Society for the benefit of his Fellows.

*Resolved*, That these resolutions and preamble be approved by the President and Secretary in behalf of the Society, and published; and that a copy of the same be presented to every apothecary in the county, if practicable.

DEWITT C. ENOS, *Presd. Kings Co. Med. Soc.*

JOHN T. YOUNG, M.D., *Sec. Kings Co. Med. Soc.*

## Army Medical Intelligence.

### SPECIAL ORDERS, No. 158.

In pursuance of instructions received from headquarters of the Department Surgeon E. M. Porren, 7th Mo. Inf., is relieved from further duty in the Jackson U.S. Military General Hospital.

Assistant-Surgeon W. Watson, U.S.V., is assigned to duty as Surgeon-in-charge of the Jackson General U.S. Military Hospital.

### SPECIAL ORDERS, No. 161.

Surgeon G. F. Weeks, U.S.V., having reported to this office, is assigned to duty as Surgeon-in-charge of the Church U.S. Military General Hospital.

Surgeon S. L. Cheaney, 29th Illinois Inf., is relieved from the charge of Officers' General Hospital, and will report to the commanding officer of his regiment at Vicksburg, Miss. (in obedience to orders from Dept. Headquarters.)

## Original Lectures.

### DISEASES OF THE RESPIRATORY ORGANS IN CHILDREN.

BEING A COURSE OF LECTURES PREPARED FOR DELIVERY DURING THE SPRING  
SESSION OF 1882 IN THE COLLEGE OF PHYSICIANS AND SURGEONS, N. Y.

BY THE LATE

C. VAN ALLEN ANDERSON, M.D.,

PHYSICIAN TO CHILDREN'S DEPARTMENT, DEMILT DISPENSARY, N. Y.

#### LECTURE VI.—PART II.

##### BRONCHITIS.—PNEUMONIA.

The symptoms of inflammation of the lungs vary somewhat according to the portions which are attacked by this disease: we may, therefore, study separately simple acute bronchitis, in which only the primary and secondary bronchi are affected; capillary bronchitis, in which the finer tubes and air-vesicles suffer; and, thirdly, pneumonia, or inflammation of the substance of the lungs, which most frequently follows bronchitis, is sometimes idiopathic, and at others secondary to various disorders, such as croup or hooping-cough.

The symptoms of simple bronchitis are few, and easily recognised. There may be some chilliness if the child be old enough, for you will remember that children at the breast seldom or never have chills. At any rate, there is a slight febrile attack which may readily escape the attention of the parents or nurse; but a short, dry cough, which speedily comes on, is not so easily overlooked. This cough is occasionally paroxysmal, but it is never hoarse; it does not continue dry, but after awhile becomes thick and moist; it is not accompanied by any expectoration. The respiration is always quickened more or less, the amount of acceleration varying with the gravity of the disease. The pulse is more frequent than in the state of health, and shows a disposition to increase at night. The countenance is not distressed, but has a languid expression and some degree of pallor. I have, however, seen many children in which its character was unchanged.

The physical signs of this disease are extremely simple. On percussion, both sides of the thorax are equally and normally resonant. On auscultation, the ear distinguishes the loud, snoring, sonorous r  le, the sibilant r  le, which is hissing or whistling in its character, and a large, coarse crepitation. These sounds are more or less fugitive—appearing here and there—mixed with each other, and, especially the sonorous r  le, vanishing from any given spot after a cough; but the sonorous and sibilant r  les are more likely to be heard at the upper, and the coarse crepitus at the lower part of the lungs.

While this inflammation of the larger branches of the bronchi is not very alarming in itself, yet it may become the source of extreme danger, or even of death. This can happen in three ways:—The copious secretion of a viscid mucus may easily cause the occlusion and collapse of large portions of the lung, an accident which we have learned to consider very serious; or the inflammation, spreading by contiguity, may invade the finer bronchial tubes and air-vesicles, in which case the disorder is known as capillary bronchitis; or extending still further to the substance of the lung, it may become pneumonia. A case of ordinary bronchitis, therefore, although it may be simple enough, and seem to require very little treatment, still deserves close and careful watching.

In a very few cases inflammation seizes suddenly upon the finer divisions of the bronchi and upon the air-cells; but, as a general rule, the morbid action has commenced in the larger tubes, and extends from them. In this event we have a very formidable disease to contend with. The attack begins with the usual symptoms of catarrh, the slight fever, and dry cough, which we have

already observed; the general health does not appear much deranged: the infant preserves its ordinary behavior in its nurse's arms, and older children continue their games and amusements.

In the course of a few days, or sometimes even of a few hours, symptoms of great significance make their appearance. Either there is a rapid progress in the bronchitic phenomena, or else a sudden outbreak of serious disease. The fever is heightened and increased, the respiration is greatly quickened, shallow, often panting like that of an animal, and remarkably abdominal in character. The *alae nasi* are greatly and rapidly distended and contracted, by the observation of which motions we are enabled to ascertain the frequency of the breathing, for each dilatation corresponds with a respiratory effort. The manner of the child conveys the idea that all his strength is concentrated in his efforts to expand the thorax; lying on his back or on his side, with a heavy, anxious countenance and distressed eyes, his head thrown back, or else having a slightly nodding motion with each breath he draws, he shows an indisposition to be disturbed, is impatient, and is irritable and hurried in his answers to questions. His muscular system seems enfeebled: it is difficult to make him sit up, and when he does so his head falls wearily to the right or left. There is no appetite, but much thirst, which, however, the little patient cannot satisfy, for the time required to swallow fluids is wanted for breathing, so that he continually calls for water, with which he does little more than moisten his lips. The mouth, though somewhat hot, is yet not dry, and the tongue either preserves the condition that it had in health, or presents a thin, white or yellowish coating; the bowels are disposed to constipation; there is in some cases nausea and vomiting; in others it is difficult to produce emesis; and in others again, although the exhibition of emetics seems not to be responded to, their action after a while is readily induced. This kind of bronchitis is that which I told you bore some resemblance in the paroxysmal nature of its cough to pertussis; for, as the disease advances, the cough loses the hacking character that it had at first, and sometimes returns in fits like those of hooping-cough, except that they are shorter, are not followed by a hoop, and are not attended by expectoration. As the disease progresses the respiration grows more hurried, and is attended by more intense dyspnoea; the palms of the hands and the soles of the feet become burning, the pulse rises to 140, 160, 180, and the respiration to 60, 70, 80. The face is pale, or streaked here and there with livid lines, or else of that dusky hue which is associated with asphyxia; the cough becomes smothered, the feebleness is more marked, and the child begins to be somnolent. As death approaches the pulse attains such a rapidity, combined with such weakness, that it is impossible to count it; the drowsiness becomes more profound; strabismus, spasmodic twitchings of the muscles of the trunk and extremities, and accessions of terrible exhaustion, are observed, until, finally, the poor little patient dies.

If, on the other hand, the complaint is to terminate in resolution, the unfavorable signs gradually die away, the pulse becomes fuller and slower, the dyspnoea less, the respiration more harmonious, the eye brighter, the color of the face more natural, and the disposition to somnolence vanishes. The muscular strength, also, is regained, and the child will emerge from this disease to a state of robust health with a celerity that is truly astonishing.

When we consider that capillary bronchitis consists in inflammation of the smallest twigs of the bronchial tree, it will be evident what physical signs we are to look for. The chest is resonant on percussion, because, even with a considerable degree of dyspnoea, there is air enough in the cells, though that air does not escape from them so readily, and is not so frequently changed as in health. The lung still preserves its spongy texture, and, therefore, when we strike the thoracic walls, we obtain the normal clear sound.

On auscultation we will remark, in the first place, that



abnormal bruits are heard in both lungs. In the beginning of the disorder a scanty transmission of air is detected, accompanied by the sounds developed in the larger bronchi, sonorous râle, and coarse crepitus, which may entirely mark the evidences of the inflammation having extended to the smaller tubes. But before long a subcrepitan râle is heard all over the lungs—a râle which, you know, is larger than the fine crepitation of pneumonia, and smaller than the ordinary coarse crepitation. This râle indicates the involvement of the smaller ramifications of the bronchi; it exists both in inspiration and expiration, and remains unchanged until the approach of death, when the air, penetrating only to the larger tubes, produces a coarse, mucous rattle, which is truly a sound of ill omen.

The diagnosis of both simple and capillary bronchitis is, then, extremely easy. They are both associated with fever, with cough, with more or less uneasiness in the chest. In listening to the coarse crepitus and sonorous râle of the one, or with the subcrepitan râle of the other, and associating these signs with resonance on percussion, we find no difficulty in assuring ourselves of the true nature of the case.

Simple bronchitis passes through its stages in a uniform manner, lasts a few days, and then terminates either in resolution or in the form of the disease which we have just studied. Capillary bronchitis lasts from two days to a week, but terminates less frequently in resolution than in pneumonia, collapse of the lungs, and in some cases in phthisis. It is extremely fatal.

Before mentioning the symptoms of pneumonia in children, I desire to call your attention to the treatment of bronchitis. In the simple form of the disease there is very little to be done, that is in the way of medication; but there is a great deal required in the way of care and watchfulness. Confinement to the house, so as to secure a tolerably equable temperature, warm baths to assist the proper function of the skin, light, but nutritious diet, an occasional emetic which shall prevent too great an accumulation of mucus in the bronchial tubes, and some form of counter-irritation over the chest, are all the means that you will use, unless, indeed, you resort to a very mild expectorant in order to quiet the apprehensions of the parent. But at the same time the trustworthy physician, knowing the danger there is either of collapse of the lung, or of the supervention of capillary bronchitis, or of pneumonia, will watch the case closely, and will keep himself properly informed of the state of affairs within the thorax by the frequent performance of auscultation, and by a proper observance of the pulse, heat of skin, and respiration of his patient.

In the severe and dangerous inflammation of the smaller tubes energetic and decided treatment is necessary. We must remember that it is liable to pass into pneumonia with great ease, or else to depress the patient with alarming rapidity. We are, therefore, not justified in bleeding, or in the use of depressing remedies, for the strength of the system is to be preserved as far as possible; yet we may occasionally meet a case in which, in the early period of the complaint, the application of a leech or two to the arm or hand may prove beneficial; but remember that this measure is likely to increase the sensibility of young children, and may throw them into a very serious nervous state.

As our object is not to favor the accumulation of the secretions in the bronchial tubes, we will avoid the use of expectorants, which I am convinced do more harm than good; but as we wish to get rid of these mucosities, and to diminish febrile action as far as we can, we will find in emetics a class of remedies capable of accomplishing both of these ends. The fluid extract of ipecacuanha, each drop of which is equal to one grain of the drug, possesses the advantages of being very active, and of being easily administered; but we must be careful that the continued use of it does not produce a weakening diarrhoea. Vomiting should be brought on twice a day or oftener if there are evidences of copious secretion in the air-tubes.

The walls of the chest supply us with the situation for the application of revulsives. Dry cups all over the thorax, if the child be not too much alarmed by them, friction with olive-oil and oil of turpentine in equal quantities, or cloths wrung out in hot water, sprinkled over with turpentine, and then closely applied to the skin, will have a powerful effect. Blisters are objectionable for three reasons:—1st. The prolonged irritation they cause acts unfavorably on the nervous system of a child; 2d. They are apt to be followed by troublesome sloughs or even gangrene; and, 3d. They interfere with the use of warm baths, which is a remedy of great value.

Towards the termination of the attack, and in many instances even in its early stages, recourse must be had to stimulants. "Wine," says Rilliet and Barthez, "is the one of which the action is the most prompt and the most efficacious; we have seen a case in which death appeared imminent, and in which the use of wine aided in surmounting a period which, in the immense variety of cases, is the last." A teaspoonful or a dessert-spoonful, according to age, of wine and water, or of strong wine-whey, may be given in pressing cases every half hour; in less urgent ones, every two or three hours.

During convalescence, when the acute symptoms have ceased, and the danger is over, if the patient remains pale and debilitated, he should take small doses of the sulphate of quinine, or of the citrate of quinine and iron; or as change of air will be of service, you can send him to the neighborhood of some chalybeate spring, where the influence of the tonic will be aided by the pure atmosphere of the country. Usually, however, the recovery from capillary bronchitis is exceedingly rapid and complete.

In considering the symptoms of pneumonia it is hardly necessary to go over the old controversy whether such a thing as real lobular pneumonia does exist, since we will find that primary pneumonia, which is rare in young subjects, affects the whole lobe, or more than one lobe, just as in the adult; while it appears reasonable to admit that the inflammation which follows bronchitis may extend from lobule to lobule.

The attack, if the disease be primary, may come on suddenly, but more frequently it follows bronchitis, and is so insidious in its onset that it is by no means easy to determine the exact period of the seizure. The child is restless, depressed, takes its food without much pleasure, cries at the slightest opposition to its wishes, and is either wakeful at night or else slumbers uneasily and talks in its sleep. After awhile some fever is observed, accompanied by disturbance of the respiration, and a short, hacking cough which does not seem to trouble the child much, and may sometimes entirely escape the notice of the parents. Increase of thirst is soon seen, with vomiting, perhaps, and constipation of the bowels, while the tongue is inclined to be dry, is red at the edges, and coated in the middle with a heavy, white fur. The results of auscultation in this early stage are not as satisfactory as they afterwards become; sometimes they afford no information at all, and at others the ear distinguishes only a coarse crepitus over both lungs. Percussion gives negative results.

These symptoms last from twenty-four to forty-eight hours: if they disappear at that time, the case has been one of simple bronchitis; if they increase, it develops into pneumonia.

The child then becomes more restless and agitated, the appetite is lost, and the thirst excessive; heat of skin comes on at irregular intervals; the eyes begin to assume the brilliancy of fever; the pulse increases in frequency, and a change occurs in the mode of respiration which is sufficiently remarkable. The breathing takes place not only through the nostrils, as in health, but also through the open mouth; at each inspiration the *alæ nasi* dilate with a considerable effort, and the eyebrows are knitted, while the lips are held apart, increasing the discomfort of the complaint by the dryness of the tongue and fauces thus produced. As the inflammation acquires a firmer hold, the little patient

shows a disinclination to be disturbed, and a certain amount of drowsiness; the cough is frequent, hard, dry, sometimes painful, sometimes a continual hack, sometimes assuming a *kinzy* character, and coming in fits. The respiration, also, is hurried, as is manifested by the movement of the nostrils, and the muscles of the abdomen which are brought into play in order to assist in its performance. The fever becomes more intense; the skin more hot, and with a peculiar kind of heat, "pungent heat," as it is called, in order to express the fact that it becomes more sensible the longer the hand is kept in contact with the surface. This pungency is most marked upon the trunk, for in many cases the extremities are cold, while the rest of the body is burning. The face wears a heavy, sodden, anxious expression, and if the pneumonia is very intensive, has a livid color around the mouth and under the eyes. Children at the breast are unable to suck; as often as they attempt to take the nipple the dyspnoea becomes so urgent that they are forced immediately to drop it, and lie panting and exhausted in the nurse's arms. \*

## Original Communications.

### SOME FURTHER EVIDENCE OF THE EFFICIENCY OF SULPHURIC ETHER AS AN ANÆSTHETIC.

By F. D. LENTE, M.D.,

SURGEON TO "WEST POINT FOUNDRY."

ABOUT a year ago, in one of the July numbers of this Journal, I furnished a list of surgical operations in a military hospital of which I was, for a time, surgeon-in-charge, in which sulphuric ether was administered by me, or under my direction, noting the *time* and *quantity* requisite for complete anæsthesia, with the object of inducing other surgeons to substitute this agent for *chloroform*, by proving conclusively, *as these cases do*, that the only objection which is now urged against *ether* (the *length of time* and the *large quantity* requisite) is entirely invalid, and due only to a faulty mode of administration. These cases were witnessed by many eminent surgeons from different parts of the country, who had been always in the habit of using chloroform, and by several army surgeons, who expressed great surprise and pleasure at the facility with which the patients were brought under the influence of the ether, and the simplicity of the means. One of them, at least, has since succeeded in procuring the substitution of ether for chloroform in a large public institution, of which he is one of the attending physicians.

Convinced myself years ago of the facility with which patients may be brought under the influence of sulphuric ether, and, with *ordinary care*, of its entire immunity from danger, I felt the importance of bringing forward occasionally fresh facts in illustration of this, and have accordingly done so at different times and in various journals. A number of private letters, received from some of the most distinguished members of the profession, expressive of their gratification at these efforts, and urging a continuance of the same, as well as a sense of duty, has induced me to solicit the attentive consideration of those surgeons especially who urge the above objections against sulphuric ether, to the following tabular statement of such operations, as have occurred in my practice here since the publication of the cases above alluded to, in which I had occasion to use an anæsthetic, and in which there was opportunity for carefully noting the *time* and *quantity*.

No.	Nature of Operation.	Time.		Quantity of Ether.	Sex.
		Min.	Drachma.		
1	Extraction of Teeth - - - - -	3	12	Fem.	
2	" " " " " " " " " " " "	4.30	14	"	
3	Partial Amputation of Hand - - - - -	4	16	Male.	
4	Extraction of Teeth - - - - -	2.30	12	Fem.	
5	" " " " " " " " " " " "	3	12	"	
6	Partial Amputation of Hand - - - - -	3	12	Male.	
7	Excision of Small Tumor - - - - -	3	2	Fem.	
8	Extraction of Teeth - - - - -	3	3	"	
9	" " " " " " " " " " " "	3	3	"	
10	Deep Incision for Palmar Abscess - - - - -	Not noted.	7	Male.	
11	Removal of Sequestrum of Humerus - - - - -	2	7	"	
12	Excessive Irritability of Bladder—Introduction of Catheter - - - - -	3	6	Fem.	
13	Excision of Cancerous Mammary - - - - -	4	10	"	
14	Instrumental Delivery - - - - -	3	10	"	
15	Reduction of Dislocation of Ankle-Joint - - - - -	2.30	12	Male.	
16	For Necrosis of Jaw - - - - -	4	12	"	
17	Diseased Bladder (Child)—Introduction of Catheter - - - - -	1.30	1½	"	
18	Amputation of Finger - - - - -	2	16	"	
19	Extraction of Teeth - - - - -	6.30	16	Fem.	
20	Amputation of Leg - - - - -	4	12	Male.	
21	Cheloplasty Operation - - - - -	3.30	12	"	
22	Removal of Tumor from Neck - - - - -	1.40	8	Fem.	
23	Incision of Carbuncle - - - - -	3	8	Male.	
24	Incision of Deep Palmar Abscess (Child) - - - - -	1.30	5	"	
25	Amputation of Arm - - - - -	2	8	"	
26	Removal of Neuromatous Tumor - - - - -	4.30	8	Fem.	
27	Reduction of Old Dislocation of Elbow - - - - -	4	9	Male.	
28	Extraction of Teeth - - - - -	4.30	8	Fem.	
29	" " " " " " " " " " " "	2.30	7	"	
30	Reduction of Dislocation of Semilunar Cartilage - - - - -	5	14	Male.	
31	Amputation of Arm - - - - -	2	3	"	
32	Crushed Foot—Partial Amputation - - - - -	2	6	"	
33	Amputation of Thigh - - - - -	2	4	"	

Quite a number of the operations, it will be perceived, consists in the extraction of teeth. In many cases from six to fourteen teeth were extracted during the etherization, the patient being all the while perfectly insensible. These operations afford a better test, perhaps, of the efficiency of an anæsthetic, than almost any other, as the patient is in an unfavorable posture, and the muscles must be perfectly relaxed in order that the operation may proceed satisfactorily. It will be noticed, accordingly, that a larger amount of ether, and a longer time are required, in these operations, than in those of greater gravity, or those more strictly surgical.

I would also remark, that these operations have not been *selected* because in them the action of the anæsthetic was more satisfactory than in others, for such is not the fact, other equally painful operations having been equally successful as to the anæsthesia during the same period, but because there was opportunity to note carefully the time and quantity, operations in the country not always allowing this.

The 1st, 3d, 6th, 7th, and 31st operations were performed by my partner, Dr. P. C. Barker. Dr. Davis, the dentist of this place, was generally the only professional witness of the dental operations, which were mostly performed by him; some of them by Mr. Saunders, hospital steward of West Point. Drs. P. C. Barker and William Young, of this place, were present at most of the operations, and noted the time and quantity in many instances. Dr. Sheldon, U.S.A., was present at the 11th, and Dr. Pryor, house-surgeon of Bellevue Hospital, at the 20th and 21st.

As regards the *inhaler*, I formerly used a cup-shaped sponge, large enough to cover the face, enveloping this with several folded towels; but one made with *coarse* and *stiff* towels alone, which are generally obtainable anywhere, is decidedly preferable, and it was this which was used in the above cases. The towels are to be laid together, and folded so as to make a cone sufficiently large to cover the nose and mouth; a handkerchief or soft cloth is then to be thrust into the apex of the cone, on which the ether is to be poured. I will describe again the mode of

giving it, so as to insure the saving of time and ether; by using it more lavishly the average time might be diminished still more. A drachm or two (for an adult) are first poured rapidly into the cone, which is then approached close to the face of the patient (who has been previously directed to breathe through the nose and mouth, shutting the eyes). If coughing be excited, a little air is allowed to enter with the vapor of the ether for a few moments; two or three drachms more are then thrown quickly into the cone, which is rapidly replaced, and now kept closely applied to the face at every point; frequently an additional towel is thrown over it, if the vapor seems to escape. When the patient struggles, after becoming excited, and endeavors to tear the cone from the face, it must the more resolutely be kept there, and no air allowed to enter around the edges. Sometimes the breath is held for some moments, in which case a little air may be allowed until he breathes freely again. The pulse should always be attended to, and if this be done, no fears regarding the ether need be entertained, as no sudden effect, like that often produced by chloroform, can be produced by it. A certain amount of practice and some tact are required to get the full effect of ether with an ounce or less, and within three minutes, unless the patient is very feeble or suffering from shock. One great cause of failure lies in withdrawing the inhaler too long from the face, from time to time, in order to replenish the ether, or for other causes, and not keeping it closely applied, thus cutting off all access of air except what enters through the pores of the towels; also in allowing a draught of air in the room; even in warm weather the apertures of the room should be closed during the first inhalation. I hope I may be excused for taking up space with these minutiae, but without attention to them failure will often result.

COLD SPRING, N. Y., Aug. 18, 1868.

#### CASE OF

### FRACTURE OF INFERIOR MAXILLA, TREATED BY A WIRE GRIP.

By A. J. HYDE, M.D.,  
OF EAST HADWICK, VT.

MR. F. FARRINGTON, merchant, *set.* 25 years, received a kick from a horse, fracturing his lower jaw, between the bicusps, on the right of the symphysis.

I saw him about two hours after the injury, in a half-conscious state, he having been severely stunned by the blow. The horse-shoe had cut through the soft parts underneath the chin, the blow being directed upwards and backwards. Mobility was complete, the fragments moving half an inch upon each other without difficulty. The crepitation was distinct. Blood and saliva were flowing freely from the wound and mouth. Both teeth adjoining the fracture were loose, but I decided to attempt to save them both. Reaction came on; the concussion of the brain passed off in a day or two by the use of cathartics, and the only point before me was to keep the fracture in place. I was three days in trying many different appliances recommended by authors in case of this fracture. They each entirely failed to keep the portions of bone together. I really could find nothing in books which, being followed out, would answer the requirements of the case, for each time the patient swallowed the fracture would spread apart. I then hit upon the plan of gripping the teeth with wire. I simply wanted a pair of nippers, a dental file for separating the teeth, and a piece of fine wire. Of the latter I happened to find some the ladies use in making hair wreaths. The second tooth on either side of the fracture being firm, I filed down between that and the next, it being between the first and second molars on one side, and the bicuspid and incisor on the other, this being done without causing much pain. I then took five or six strands of the wire, untwisted, in a piece of sufficient length to pass round through these two places of separated teeth, thus embracing the

fracture with it. It being tucked down as near the alveolar process as possible on each side, I brought the two ends of the wires together externally, took my nippers, and twisted them together until the fracture was brought perfectly in place. This was all the means I used, and I was gratified to see the portions of jaw remain firmly in place.

His food, of course, consisted wholly of liquids. The blood oozed slightly from the wound and mouth for five or six days, and then ceased. I only claim for this that it is simple, practicable, and efficient, where the fracture is between teeth.

I need hardly add that union in due time was perfect, and the gripe was removed. The two loose teeth were saved, and are firm and good now, nearly four years after the accident.

### INJURY OF SPINE.

By A. J. PHELPS, SURG. U.S.V.,

MEDICAL DIRECTOR 4TH ARMY CORPS.

I NOTICED in the TIMES of January 10th, 1863, an article entitled "Operation for Compression of the Spinal Cord, with Remarks, by H. A. Potter, M.D.," in which the following passage occurs, namely:—"In all cases which have come under my notice, and I have seen eight, *when blood is taken from a vein of the arm, it is arterial.*" This appeared to me to be a very remarkable phenomenon, just the contrary of what I would have expected, and I took the first opportunity that occurred to test the fact, and which I will record as follows:—

Private John River, Co. D, 24th O.V.I., *set.* about 25, of robust habit, while in bathing, July 12th, attempted to dive, but owing to the inequality of the bottom of the stream he struck upon his head, and the concussion, although causing but slight injury to the scalp, produced such a degree of paralysis that he would have drowned immediately had he not been rescued by a comrade.

Upon examination of his case, when brought to camp, it was evident that a serious injury had been done to the spinal cord in the cervical region. His respiration was entirely diaphragmatic, and there was total paralysis of sensation and motion, with the exception of the muscles of the neck and upper arm. His intellect was clear.

It was several days after he was injured that I saw him first. No displacement of the vertebræ could be distinguished, and but very little tenderness. I decided it to be a case of subluxation of the third and fourth cervical vertebræ, and consequent injury of the cord at that point. Considering the case as hopeless, and being one in point, I directed him to be bled from the arm to the amount of ten ounces. The stream flowed freely, *but the blood presented all the appearances of venous blood*, the same as in health. He died on the fourth day of August, and upon post-mortem examination the posterior ligaments between the third and fourth cervical vertebræ were found ruptured. Circumstances prevented a proper examination of the cord, and the case is only reported as bearing upon the blood phenomenon observed in this class of cases by Dr. Potter.

MANCHESTER, TENN., Aug., 1868.

M. BOULEY has pointed out an important circumstance to the Academy, which will doubtless occasion much discussion. A horse was brought to him affected with aphthous stomatitis. He thereupon inoculated the liquid aphthous matter on the teat of a cow, on the 10th of last June. On the 18th, of five punctures, four presented pustules, perfectly identical with cow-pox. M. Bouley then inoculated two infants with matter taken from these pustules. In one of the infants, three perfect pustules, identical with vaccine pustules, were developed. This child was presented to the Academy. Moreover, five pupils at Alfort, all previously vaccinated, were inoculated with this new matter, which produced in them a more or less well marked pustulation, similar to that produced by vaccination.—*Brit. Jour.*

## Reports of Societies.

### NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, Feb. 18, 1902.

DR. JAMES ANDERSON, PRESIDENT, IN THE CHAIR.  
(Continued from page 76.)

#### DISCUSSION ON STRANGULATED HERNIA.

DR. DETMOLD stated that, during the last twenty years, he had been in the habit of operating for strangulated hernia without opening into the sac. He would never open the sac unless he was compelled to, either by the existence of a strong annular constriction in the sac, by a very large hernia, by a very strong stricture, or in consequence of the presence of omentum in the sac. He was under the impression that the question was settled with regard to the advantages of not dividing the sac. He had found in the last number of Langenbeck's Journal a statistical table of the operations for hernia, and he believed that the operation without dividing the sac resulted in recovery nearly in the proportion of two to one of the other method. In conclusion, he related the following case, which, as far as his experience went, was unique. He operated upon a man with direct inguinal hernia. The strangulation had existed for twenty-four hours, and the physician in attendance had, for the most part, depended upon simple cold produced by the evaporation of ether previously poured upon the tumor. When Dr. Detmold arrived, there was no chance left for reduction save by an operation. The patient was accordingly put under the influence of ether, and the operation proceeded with in the usual way. He found difficulty in repositing the strangulated parts, which rendered necessary the division of the sac. There was then found among the folds of the intestine a large coagulum of blood. This was evidently due to a rupture of some small vessel, although no force was used in any of the efforts made to reduce it by taxis. He had frequently met with cases where a bloody serum and offensive fluid had been discharged under similar circumstances, but never before had he met with a coagulum of blood in that situation.

Dr. Post, in reference to the reduction of strangulated hernia *en masse*, related the case of a gentleman who met his death in consequence of such a state of things. The gentleman, who had previously been afflicted with hernia, found one day that it had become strangulated. He resorted to taxis, and thought that he had succeeded in reducing it. The symptoms of strangulation, however, continued unabated, and he died shortly afterwards. On post-mortem examination, the hernia was found to have been reduced *en masse*, the strangulation of course being unrelieved. A wax cast of the specimen is in the Museum of the College of Physicians and Surgeons.

Dr. Post, in further remarking upon the general subject of hernia, referred to a class of cases which were quite peculiar in their general characters, and which he thought might frequently be mistaken for other troubles. The first case occurred in his own practice fifteen years ago, while in attendance at the N. Y. Hospital. A seaman was brought into the hospital who, two or three days before his admission, had been engaged in making violent exertion at the capstan, and, as the result, a large tumor of the scrotum made its appearance. Immediately after the occurrence he was taken to a boarding-house, where he remained three days. At the time of his admission into the hospital the whole of one side of the scrotum was filled with a tumor nearly as large as the two fists, hard and resisting, tender and painful on pressure. Attendant upon all this was vomiting, constipation, and considerable tympanitis. The patient was brought into the hospital two or three hours before the public visit, and it happened that day that a consultation of the surgeons had been called in another case, and all who were there present were asked

to see this patient. There were some peculiar circumstances connected with the case: in the first place, the patient had not suffered previously from hernia; secondly, the tumor had a peculiar shape precisely like that of a swelled testicle, and the appearance and feel of the tumor were such as to confirm such a suspicion. On submitting the case to the surgeons, none of them were prepared to believe that the swelling was caused by a hernia. One surgeon of great eminence stated his willingness to stake his professional reputation against its being hernia, maintaining that the seaman was mistaken as to the manner in which the accident happened, and that the capstan had struck the testicle, giving rise to traumatic orchitis. Other members of the consultation seemed inclined to concur in this opinion; but it was finally agreed upon to perform an explorative operation. This was done by Dr. Post, who found a strangulated hernia, and after relieving the stricture, returned the contents of the sac. Peritoneal inflammation had set in, and the patient died in the course of two or three days after. The sac was the tunica vaginalis testis. Since that time a similar case has occurred to Dr. Knight, of New Haven. Dr. Post has also within the past few years seen five other cases, whose characters and general appearance were precisely identical with the one thus described. His idea is, that in these cases there is a congenital deficiency of the septum, and on violent exertion the intestine is forced down, and being within the envelopes of the testicle, causes the tumor to assume the form of that organ. He was not aware that the attention of the profession had been called to this particular variety of hernia before he had met with his first case.

DR. STEVENS, in referring to a case of a large strangulated umbilical hernia upon which he operated with success, stated that a very good director could be extemporized by a quill split on one side longitudinally, and plugged up at one extremity by means of some wax. A penknife could also be made to answer for a bistoury.

The Academy then adjourned.

STATED MEETING, March 4, 1902.

DR. JAMES ANDERSON, PRESIDENT, IN THE CHAIR.

#### DISCUSSION ON STRANGULATED HERNIA.

(Continued.)

DR. POST:—I wish to refer to one more additional point, in connexion with hernia, viz. the influence of position in taxis. I have seen a number of instances in which the taxis had been attempted in the ordinary position, and had failed, and in which all the preparations had been made for the performance of the operation, when, by having a strong assistant elevate the lower extremities over his shoulders, the strangulated portion was easily reduced. I know of one instance under the care of the late Dr. Kearny Rodgers. He attempted the taxis with the usual auxiliaries, and, failing, had appointed an hour for the operation. I requested permission just before he was about to operate to have the patient placed in that position. One of the nurses then stood over the patient, and elevated the lower limbs in the manner that I have indicated, when the hernia returned with great ease. That is one of a number of cases in which the same method has succeeded when the ordinary method has failed. I think that an exaggerated importance is attached to the use of the warm bath as an adjuvant to taxis.

I have seen strangulated hernia reduced under the influence of the relaxation occasioned by bloodletting. I remember very well a case under my care at the New York Hospital, in which the usual means had been tried, and in which, in the failure of such means to produce the desired effect, it was decided to perform the operation. The operation was necessarily delayed a few hours, as I was compelled to leave the patient for that period. I directed that in my absence a number of leeches should be applied over the hernia, and when I came back I found that there had been a spontaneous reduction of the strangulated mass.

DR. HUTCHISON, of Brooklyn, wished to call the attention of the Academy to the operation for the radical cure of hernia, more especially for the purpose of listening to the experience of others upon the subject. He thought that probably the truss was the instrument most used, its object being to crowd together both walls of the sac, producing adhesive inflammation. He was confident that the frequent failure of this instrument in producing a radical cure was due to several reasons. In the first place, surgeons were too much in the habit of sending their patients to instrument makers, who had no idea of the indications that were to be fulfilled. Dr. Hutchison had occasion, while examining persons claiming exemption from the draft, to notice the great evils of such a practice, and in one case, particularly, the testicle of one side was atrophied to the size of a pea by the pressure of a pad directly over the spermatic vessels. The object of the truss is to obliterate the sac at its opening, viz. at the internal abdominal ring, but too frequently, by the slipping of the instrument simply, the external abdominal ring is closed, leaving the other open, the patient being constantly liable to a return of the difficulty. The proper place, then, for a truss is directly over the internal abdominal ring and inguinal canal, and where this is done, in a large proportion of recent cases the hernia is radically cured. The operations that have lately been advocated have the same object in view, viz. the obliteration of the sac. Dr. H. performed such an operation in eight cases—in six by Dr. Riggs's instrument, one by Dr. Army's instrument, and one by a modification of Dr. Davis's instrument. In three of the cases the hernia was congenital. In the cases operated upon by Dr. Riggs's instrument the results of only four could be obtained, and of these in three the disease returned, one at the end of one month, one at the end of two months, and the other at the end of seven months. Dr. Riggs's instruments consist of a curved canula carrying a needle, the extremity of which is armed with an eye. The canula is passed up the canal invaginating the integument as far as the internal ring, when the point of the needle is pushed through the skin at that point. A small skein of silk is then passed through the eye of the needle, and the instrument being withdrawn, a seton is thus introduced through the whole length of the inguinal canal. Dr. Army's plan is very similar to Dr. Riggs's, with the exception that but a single thread is passed through the canal instead of a number of them. Dr. H. has operated by this method but once, and then he modified it by replacing the thread by an iron wire. He found that the amount of irritation produced was very much more than that occasioned by any other seton. In this instance the cure was complete. The operation by the modified Wurtzer's instrument was satisfactory; whether permanently or not, Dr. H. could not positively say. He gave the following description of the instrument, as modified by Dr. Redfern Davis, of Birmingham, England. The plug, instead of being one piece, is made so that the lower half is capable of expanding. The advantages claimed for the instrument are, that a force is exerted on the posterior portions of the invaginated integument, canal, and rings, bringing them in close apposition, one with the other, at the same time that the superior layers are compressed by the upper portion of the plug. This antero-posterior compression of the invaginated structures blocks up the canal more efficiently than mere compression of the anterior layers by Wurtzer's instrument, and hence the gut is less liable to slip down into the interspace behind the plug. A single Davis's instrument will answer for all cases, because it can be enlarged by expanding the plug to any size. In using Wurtzer's instrument it is necessary to have at least three sizes, on account of the varying size of the canal and rings in different subjects.

DR. MINOR, of Brooklyn, spoke very highly in favor of the suspension of the limbs as a means of reducing strangulation, and was disposed to refer the result to the gravitation of the blood on the one hand, and the

traction of the intestines upon the strictured part on the other.

In answer to the question as to the degree of gangrene which could safely be returned into the abdomen,

DR. BUCK remarked that when the intestine had given way or was about to give way, he would not return it, but when it presented merely suspicious-looking livid spots he should replace it, expecting that adhesion would take place before there would be time for perforation.

DR. BELL, of Brooklyn, referred to a case of strangulation which he had just operated upon, which was remarkable on account of the size of the hernia, it being nearly as large as an adult's head. The mass had been strictured for eight hours.

DR. BISSELL, of Montrose, Penn., also related the history of a case of strangulated hernia which he had operated upon some years ago, which was peculiar in the respect that the gangrenous gut was returned, and the patient recovered.

DR. DETMOLD remarked that the mere reversion of the position of the body was by no means a novel procedure, as it had long ago been advised by writers upon surgery, some of whom recommended that the patient should be tied for a time to a ladder with the head downwards. He referred to a case of femoral hernia in a female whom he was called to see in consultation. When he arrived he found the medical attendant leisurely walking up and down the room, with the patient slung over his back head downwards! In this instance the hernia was not reduced. He had occasionally succeeded in reducing strangulations in children by suspending them by the feet. Dr. D. also cited a case of strangulated hernia, which illustrated forcibly the beneficial effects of chloroform. He was called to see a case of strangulated femoral hernia in a female. Reduction could not be effected, and the operation was determined upon. While getting ready to perform it, the husband came in partially intoxicated and refused to have it done. After Dr. D. had returned home the husband changed his mind, and desired the operation performed. Dr. Noeggerath was requested to see the patient, and when he put his hand upon the tumor he found that the hernia was already reduced. Dr. Detmold thought that one reason why there were so many failures to effect a radical cure by the use of the truss was, that it was not worn at night. His old preceptor, the elder Langenbeck, used to cure the majority of cases of hernia by the use of a truss, but he always applied it himself, and made very firm pressure at the time upon the part with the instrument. The pressure was sometimes so firm that excoriation and even slight sloughing of the integument resulted. The operation by Wurtzer's instrument he had performed half-a-dozen times, but with not a single good result.

In the early part of his career he was consulted by a young married lady to perform an operation for the radical cure of a femoral hernia. Her husband had left her because he suspected that "she was not as she should be," and she was very anxious to have something done. This was at the time when none of the special operations were known. He concluded, however, to operate as if the part were strangulated, and excite inflammation by inserting into the wound a piece of lint dipped in some irritating liquid. The result was perfectly satisfactory, and with the cure of the femoral rupture there was also a cure of the family rupture, "and they both lived happily together." This was the only case that he had seen attended with any good result from an operation. In conclusion, he spoke encouragingly of the use of the oil of cloves as an irritating injection into the sac.

The Academy then adjourned.

OAKUM.—This article is now quite extensively used in many hospitals as a dressing for wounds, and has thus far proved a very excellent substitute for picked lint. It facilitates discharge, while at the same time it acts as a grateful local stimulant.

# American Medical Times.

SATURDAY, AUGUST 29, 1863.

## PRIMARY EDUCATION OF MEDICAL STUDENTS.

IMPROVEMENT of our system of medical education has justly been regarded as the most certain and most direct method of elevating the character of the profession. Though this subject has been discussed until it is threadbare, still but little real progress has been made. The schools, it is true, have lengthened their terms, and increased the number of their professorships to meet the immediate demands of the times, yet the great and most glaring defects remain, and effectually prevent all real advancement.

One of these defects, and the only one to which at this time we wish to call the attention of the profession, was recently brought prominently forward by DR. BAUER, the Health Officer of Brooklyn. In his official capacity he denied the validity of a certificate of death which was marked by orthographical and grammatical errors, taking the ground that the writer thereby showed such a defective education that he could not be a qualified medical man. He accordingly directed the coroner to hold an inquest upon the case. The sequel proved the correctness of DR. BAUER'S conclusion. The medical attendant, though a *legally* qualified practitioner, was a quack, having graduated at a chartered eclectic school.

The educational test here practically applied to the profession, illustrates in a striking manner one of the most serious defects in our system of medical education. We overlook entirely the primary education of medical students, and place our diplomas within the reach of the most ignorant and incompetent. The meagre requirements for graduation which the schools have instituted invite rather than deter the poorest class of students, and those who are no students at all. As a consequence, thousands of ignorant, immoral, and incapable persons go through these prescribed forms, and are in due time invested with the rank and privileges of doctors in medicine. Every session of the medical colleges swells the number of this class of graduates, until they have reached a fearful sum total. It is not strange that the popular saying should run thus—"He is good for nothing else but to become a doctor!"

Nothing can be more obvious than that the honor, dignity, and social position of every profession must depend entirely upon the primary qualifications and education of those who engage in its pursuit. It matters little how stringent or how thorough is the course of instruction, if the student is intellectually incompetent, or educationally unqualified. He can never become truly learned in the science which underlies professional excellence. Whatever may be his other merits or virtues, he will certainly degrade the profession which he enters, and bring it into disrepute. Every profession but that of medicine has recognised these truths, and endeavored, with more or less success, to apply the proper remedy. They have carefully scrutinized the claims of each applicant to a place in their order, examining critically as to intelligence, morals, primary education, etc. These professions have reaped the rewards of their vigilance. They have maintained in every

community, however refined or cultivated, the highest social position, and have commanded the largest share of respect. But the medical profession, with all its social advantages, embracing the largest circle of human learning, and ministering constantly to the temporal interests of man, seems doomed to rank inferior to that of other professions, and sometimes little above that of the most common handicraft.

It cannot be denied that society has good grounds for forming so mean an opinion, so low an estimate of the educational qualifications of medical men. They judge the character of the whole body by the many examples of physicians whose general education is much inferior to that of the more prominent and respectable citizens. We may be thought to be too sweeping in our statements of the prevalent deficiency in the primary education of medical men, but a large correspondence with the profession, extending over many years, bears us out in the assertion. We would not care to see the profession of any city or section of the country publicly brought to the test made by DR. BAUER, viz. that of writing correctly. This is a humiliating confession to be made in regard to a learned profession, but it is time we fully appreciated these facts, and attempted the necessary reform. The first and most important improvement in our system of medical education is clearly that of compelling a thorough preliminary examination of every student as to his qualifications for the study of medicine. This examination should not be limited to his primary education, but should rigidly scrutinize his moral and intellectual qualifications; and the standard of primary education established should be so high that the candidate would hereafter find no superiors in the best educated and most cultivated communities. The agents by which this preliminary examination should be made are the schools. At the commencement of every session they should examine each student who presents himself, and determine whether or not he has the requisite qualifications for commencing or pursuing the study. If he is found deficient, admission should be refused until he has properly qualified himself. We commend this subject to the medical colleges. If they would unitedly adopt the plan of preliminary examinations, they would render a most essential service to the profession.

## THE WEEK.

A PARLIAMENTARY inquiry into the Prison Discipline of England has elicited some interesting facts in regard to the relation of the punishment to the dietary. The Committee was desirous of reducing the article of meat to a minimum, but DR. EDWARD SMITH, to whom the Committee referred the physiological questions, took the ground that "Food is assimilable, other things being equal, in proportion to the vital stimulus acting in its transformation. This vital stimulus may be given to the body either by the nitrogen which is contained in the food or by the temperature of the season and bodily exertion; as is proved by the facts that with inactivity of body food of an animal nature is more needed, whilst with cold weather and exertion the desire for food and the consumption of food are greater. Hence exertion, whilst increasing the requirement for food, enables the body to digest and assimilate farinaceous and the less nitrogenized foods, and so far may be regarded as rendering the administration of so large a quantity of nitro-



gen unnecessary. In fact, he would compel the digestion of bread and the cheaper foods by a proper amount of exertion rather than by an increase in the nitrogenized and dearer foods. The principle is one admitted in ordinary life; for the laborer can eat his crust and drink his water with relish, and keep in health upon it, whilst the idle man needs savory dishes, nitrogenous foods, and perhaps alcoholic stimulants, to give appetite to digestion. Dr. Smith would make such an amount of exertion a normal part of every sentence as shall insure the digestion of the cheaper foods, and increase the dietary with the further increase of exertion which the punishments to be selected should be proved on experiment to demand."

A WRITER in the *London Med. Times and Gaz.*, dating from the battle-field near Gettysburg Pa., tells some wholesome truths which are needed in that quarter. Comparing the treatment of wounded prisoners by the Unionists and Rebels he says:—

I have seen now Confederate wounded in the hands of the Federals, and Federal wounded in the hands of the rebels, and I cannot but say that in acting the good Samaritan the north bears off the palm. At Chancellorville battle the rebels removed their wounded to be cared for at Richmond, leaving the 1200 northern wounded to lie upon the field. The rebel soldiers near them gave them what help they could, but the rebel government did nothing—but confiscate the captured Surgeons' cases and Hospital knapsacks, looking upon them as Government property. On the misery being represented to those in authority, sugar, flour, bacon, and hard bread were plentifully issued to the wounded. This was all, they said, they could give, because it was all they had. Still, they could have done more; they could have removed these 1200 men to Richmond along with their own wounded, to fare as they fared; they could have sent a detail of Surgeons from their army at Fredericksburg to attend to them; and, from Richmond—only a couple of hours away by rail—straw, at least, might have been sent for them to lie upon. What would have been said had the Unionists acted similarly at Gettysburg?—had they removed their own wounded by rail, and left 10,000 rebels to lie upon the field with simply hard bread, bacon, sugar, and flour to sustain them, and with no Surgical assistance, save the dozen Medical men whom Lee sent over to take care of them? Had this been done, God help the Yankees! we would never have heard the end of it.

It is reported that there is some difficulty experienced in securing surgeons and assistant-surgeons for the colored regiments, while the line officers are in excess of the demand. Whatever may be the scruples of surgeons about joining these regiments, it is apparent that the negroes are fully demonstrating their ability to become first-class soldiers. They are already distinguished for their discipline, courage, and subordination. Surgeon JAMES BRYAN, who recently inspected the regiments in the south-west, says:—"The officers in command, without exception, spoke to me in the highest terms of the discipline and courage of their men. Some went so far as to say that they would prefer leading a black to a white regiment." There can be no doubt that the position of the surgeon to a colored regiment will be as pleasant as in the best white regiments. And more permanent. Whatever may be the future policy of the Government, there can be no doubt that colored troops will continue to be a part of the permanent military organization of the country.

## Reviews.

THE PHARMACOPOEIA OF THE UNITED STATES OF AMERICA; Fourth Decennial Revision. By authority of the National Convention for revising the Pharmacopœia, held at Washington, A.D. 1860. Philadelphia: J. B. Lippincott & Co., 1863.

We are happy to announce that the labors of the Committee of Revision and Publication of the new Pharmacopœia are at length closed, and that this authoritative manual is now placed before the profession. The many improvements that have taken place within the last ten years made a thorough and complete revision of the Pharmacopœia indispensably necessary, and the duties of the Committee were necessarily more laborious, since many changes of an important character needed to be brought about with deliberation and prudence. The Committee have held their numerous meetings at Philadelphia, and when it is understood that but one-half only of their number were residents of that city, too much commendation cannot be awarded them for their punctuality and earnestness. The present volume has truly been a scientific labor of love.

The improvements and alterations that are made in this volume are briefly adverted to in the preface, which is a model of classic perspicuity and brevity. One great improvement is particularly noticed throughout the whole volume, and that is, that plain and simple tests are given wherever they can be applied to ascertain the purity of the various substances, and to point out ready means for the detection of adulterations, and these tests in all instances are such as can be readily applied by every competent pharmacist, and by most physicians. The necessary experiments to ascertain these simple tests must have cost various members of the committee much valuable time.

There is a great improvement in the preparation of most of the extracts from that adopted in the last volume; the process of percolation is mostly used, and larger quantities of alcohol are employed to exhaust the menstruum. The improvement in the preparation of the compound extract of colocynth is very great, giving a much more definite and reliable article.

A number of formulæ for the preparation of fluid extracts appear in this volume, which were entirely unknown in the last. Within the last few years much has been written in favor of these preparations by both physicians and pharmacutists, and the endeavor has been to present something more definite than the old tinctures, which could be given in smaller quantities, but containing more of the active principle of the medicine employed. These preparations also have been rendered less objectionable to the taste of the patient than the tinctures, decoctions, and infusions formerly employed. But while they are an improvement upon the tinctures, decoctions, and infusions, which they are in a great measure intended to supplant, are they perfect in their preparation; and do they contain all of the active ingredients of the medicine they represent; and do they not in many instances contain an abundance of inert materials which add only to their bulk, not to their activity?

The object of all these fluid extracts is to furnish in a conveniently concentrated form the whole medicinal power of the medicine they represent; and to arrive at this point, solvents of various strength are employed, such as stronger alcohol, alcohol, diluted alcohol, water, etc. etc. Let us examine a few of these fluid extracts, and see whether the desired object is accomplished; first,

"FLUID EXTRACT OF IPECAC.—Take of ipecac, in fine powder, 16 troy ounces; acetic acid, a fluid ounce; alcohol, water, each, a sufficient quantity. Moisten the ipecac with six fluid ounces of alcohol, introduce it into a conical percolator, press it firmly, and pour alcohol upon it

until three pints of tincture have slowly passed, or until the ipecac is exhausted. Distill off the alcohol from the tinctures by means of a water-bath until a syrupy liquid is left. Mix this with the acetic acid and ten fluid ounces of water, boil the mixture gently until it is reduced to half a pint, and the resinous matter has separated. Filter the liquid when cold, and add sufficient water through the filter to make the filtered liquor measure half a pint. Lastly, mix this with half a pint of alcohol."

It will be seen by examining this formula that the object is to extract from the ipecac the *emetic*, as well as the whole of the resinous principle contained in the root. Then, acting upon the belief that the *emetic* is the only emetic and expectorant required to be used, the alcohol is removed by distillation, and the resinous matter is, of course, precipitated. Acetic acid and water are added to the semi-fluid residuum, and boiled to render the *emetic* more soluble, and to more readily separate the resinous matter. The menstruum is then filtered to completely separate the resin, and an equal quantity of alcohol is added merely to preserve the fluid from decomposition.

This formula certainly makes an addition to the pharmacopœia, but is it any improvement upon what it is expected to replace or supersede? Is the whole of the active principle obtained and retained in the fluid extract? If not, we certainly need a better formula! The fact simply is, that the resin which is at first exhausted from the root, and then rejected and thrown away, is a better and more reliable emetic than the fluid extract! An ethereal solution of this alcoholic resin is also a reliable and certain emetic, and a solution of the resin in caustic potash is also emetic.

Thus, even if we have in this fluid extract of ipecac a uniform and reliable emetic, to obtain it we have rejected and wasted a large amount of the active emetic principle of the root; and thus it will be plainly perceived that we need a better formula—one which will contain the whole emetic principle. Let us turn to one other, and this will answer as a type of many of these fluid extracts:—

"FLUID EXTRACT OF AMERICAN HELLEBORE.—Take of American hellebore, in fine powder, sixteen troy ounces; alcohol, a sufficient quantity. Moisten the hellebore with six fluid ounces of alcohol, introduce it into a cylindrical percolator, press it firmly, and gradually pour alcohol upon it until half a pint of tincture has passed. Set this aside, and continue the percolation until two pints and a half more of tincture have been obtained. Evaporate this by means of a water-bath, at a temperature not exceeding 150°, to half a pint; mix it with the reserved tincture, and filter through paper."

It will be seen by this process that the root is gradually exhausted by alcohol, and that the first half pint of tincture that passes is reserved to become a solvent of the remainder after evaporation. But in this evaporate, now reduced to half a pint, the whole fluid portion of which is water, for the alcohol has been driven off by heat, we have not only the precipitated resin and alkaloid, but we have, in addition, a large quantity of mucilaginous and watery extractive that have been taken up by the water contained in the alcohol. To this evaporated portion, now half a pint, we add the first half pint of tincture obtained—and what is now the result? The alcohol of this half pint of tincture, now mixed with an equal quantity of semi-fluid mass containing no alcohol, precipitates a great portion of the resin that it held in solution; it is too weak to dissolve that already precipitated by evaporation of the alcohol, and the result is that, when it comes to be filtered, a very large portion of the resinous matter is left behind, and the fluid extract contains a large proportionate amount of watery extractive, and some of the alkaloid. The object of the formula is to make it contain the whole of the active principle of the root first treated, and if it does not contain this, the formula is inaccurate, and needs perfecting.

We find that, by treating the rejected precipitate with strong alcohol, we have a more reliable and certain sedative than that contained in the fluid extract, and that

this tincture is not liable to alterations, deterioration, and precipitation, as is the fluid extract. Here again, then, as in the case with the fluid extract of ipecac, we have an uncertain preparation, and a formula that wastes a large amount of the active principle of the drug.

Now, it may be asked—How can all this be made more certain and reliable? We will essay in this instance to give a formula that we think would be liable to fewer objections than the one given in the pharmacopœia, though we conceive that almost every substance requires a separate formula for its preparation.

#### FLUID EXTRACT OF AMERICAN HELLEBORE.

Take of American hellebore, in fine powder, a sufficient quantity; stronger alcohol, sp. gr. 0.817, a sufficient quantity. Moisten the hellebore thoroughly with the alcohol, and press it into a percolator; close the bottom of the percolator so that no fluid can escape, and add sufficient alcohol to cover the root; cover the percolator, and let it stand twenty-four hours; then withdraw the cork, and allow percolation to proceed, gradually adding alcohol until the root is exhausted. Distil, and evaporate on a water-bath, until a solid extract is obtained that may be rolled into sticks. Dissolve one part of this extract in ten parts of stronger alcohol, and filter. This fluid extract will be found to contain all the medicinal principle of the root. We have used it many years, and have always found it uniform in its action. Other fluid extracts require very different formulæ for their preparation, depending upon the composition of the substance from which they are made, and the solubility and volatility of their active medicinal principle.

Under the head of Ferrum we have formulæ for the preparation of the newer valuable preparations of iron.

At present it would hardly do to leave out entirely both decoctions and infusions, but by the time of the next revision we have no doubt that it will be done, and the same may be said of the various medicinal wines.

The suggestion of Mr. Meakim to make a pronouncing vocabulary of the index is very appropriate, and although it has delayed the forthcoming of the book, it will be found of very great value to students.

Mr. Proctor's suggestion to make the work so cheap as to insure its general use by physicians and apothecaries, is a forcible reminder for all to own it. Every physician and apothecary in the United States will be both interested and instructed in perusing this volume well, for great improvements have been made in every department of the book. Every page is a tablet to the industry and science of the Committee who labored so perseveringly upon it.

## Correspondence.

### AMPUTATIONS AND RESECTIONS—CONSERVATIVE SURGERY.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—I present for your consideration a few thoughts in connexion with the subject of military surgery, a branch of general surgery, just now, of paramount interest, and in all likelihood will continue to be the subject of the deepest interest for a long time to come. You will remember that, at the late meeting of our State Medical Society, I read most of a letter which I had recently received from Dr. Alex. H. Hoff, late of this city, but now in charge, as the medical officer, of the United States Transport Hospital Steamer "D. A. Janeway," plying on the Mississippi river, and used for conveying wounded and sick soldiers from point to point.

Before reading the following letter I remarked that, as "conservative surgery" seemed to be the order of the day, I would leave it for the Society to decide what constituted "conservative surgery" in its widest and most beneficent sense—whether in resection of compound comminuted

fractures, or in treating such cases in the old-fashioned method by support, water-dressings, compresses, cleanliness, etc.

Dr. Hoff solicited my views in reference to "resection." I replied by stating some facts which came under my observation in May, 1862, while I was engaged among the hospitals at or near Fortress Monroe in attending to the wounded brought from the battle-field of Williamsburgh. It is true that my experience was somewhat limited, but I became readily convinced that *secondary* amputation through the thigh was not warrantable.

Dr. Lente, who was the first and only Surgeon-in-charge of the Mill Creek Hospital, just opened for the reception of surgical cases only, at the time of my arrival (on the Sabbath morning of the blowing up of the Merrimac, and of the evacuation of Norfolk), amputated through the middle-third of the thigh; and although the operation was not protracted, yet the patient died upon the operating-table before the stump was dressed. In the case of a patient of mine, where the circumstances (a shattered femur into the cavity of the knee-joint, with profuse suppuration) seemed to demand prompt amputation above the seat of the disease (which brought it through the upper third), the patient lived long enough to have the stump dressed, and to be removed from the operating-table, though he died in a few minutes thereafter.

From the result of these cases we arrived at the conclusion, that *secondary* amputation through the thigh could not be advocated and practised with the least hope of prolonging the life of the patient.

Dr. Bontecou, who was located at the Hygeia Hospital, had come to the same conclusion; and, as a substitute for amputation, was practising resection of the extremity of the shattered femur, in cases of compound and comminuted fractures.

I assisted him in two such operations, which he accomplished dextrously and, apparently, successfully, at least for the time being, with the aid of a Paris manufactured chain-saw which I furnished him. I was informed that he performed ten or twelve similar operations in the course of four or five days. I saw that his patients did not die immediately after completing the operation, and, therefore, recovery seemed to be more promising than amputation.

While I remained on the Peninsula I did not learn the result of Dr. Bontecou's operations. But some weeks after I ascertained through Dr. Brinsmade, of Troy, who was with me at Fortress Monroe, that at that date only one of the patients, upon whom resection of the femur had been performed, was living.

Thus it would appear that resection afforded but a small chance of ultimate recovery, but a trifle better than amputation, assuming that the patient, alive at the time of the report, ultimately recovered, an assumed time hardly warrantable in view of the wholesale fatal results in the other cases.

Such was the substance of my experience and views as expressed in reply to the inquiries of Dr. Hoff, and which appear to be fully sustained by one largely experienced in military surgery, one whom I knew to be anxious, and even ambitious to use the knife freely, and did so at the commencement of the war. These views will be further corroborated in his next letter.

I commend the frankness and candor of sentiments expressed in the letters of Dr. Hoff to the careful consideration of those who claim so much for, and prate so much about "conservative surgery" Yours, etc.,

ALDEN MARCH, M.D.,

ALBANY, N.Y., Aug. 10.

SIR:—I am at present in charge of a large hospital steamer transporting the sick and wounded from one point to another on the Mississippi river. I see a multitude of sick and wounded, but for so short a time that one or two dressings, and now and then an operation, are all of interest that come under my observation. I am heartily tired of amputations, more especially of the thigh, and, with one

or two surgeons, have attempted to save limbs as well as lives by calling in Dame Nature, and attempting to assist her, and this, I am happy to say, with a success far beyond expectation. We lose our amputations; almost every one dies: on the other hand, more than three-fourths recover. Resection in the continuity of bone, as a primary operation, is being much lauded. We have made no such operation, as we have found in some hundred cases that recovery takes place just as soon, and with as much comfort to the patient, as in an ordinary compound fracture; and what is quite singular, but few spicules of bone are discharged, although quite large fragments have been felt in the wound by the introduction of the finger, which we denominate our probe, as it has been found that our Enfield rifles, etc., make plenty of room. I am not going to denounce resection, but this dissecting off periosteum from fragments, to remove them, appears pretty, but is rather unnecessary. Will it not, if attached, nourish? On the other hand, if there be much suppuration, how much better will the periosteum left behind fare if detached from the bone? The splint used by Prof. Hodgen of St. Louis, at the Fifth Street Hospital, is, I think, a very comfortable as well as useful affair. It leaves the limb exposed, if you choose; if not, it can be bandaged with a many-tailed bandage without disturbing the position. The extension and counter-extension can be made in accordance with the views of the Surgeon-in-charge. The advice I have often heard you give has been of great service to me. A good jack-knife and some shingles, with ingenuity, will accomplish all that is required in the way of splints. I should like to have your views in relation to resection of the long bones in their continuity, as a primary operation, in a compound comminuted fracture caused by a rifle-ball. I have seen so many singular results from wounds, and so different from what I had reason to expect, and from what I have read, that I am beginning to think military surgery is all out of joint.

Yours, etc.,

ALEX. H. HOFF, M.D.

PROF. MARCH.

### HODGEN'S SPLINT

#### IN THE TREATMENT OF GUNSHOT FRACTURES.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—Inspector Vollum, of the Medical Department U.S.A., has requested me to call the attention of the profession, through the columns of your excellent Journal, to the great value of Hodgen's splint in the treatment of gunshot fractures (compound comminuted) of the thigh and also of the leg. The superiority of this splint over all others for the treatment of this class of injuries consists—1st. In the degree of comfort which it affords the patient. Sufferers with gunshot fracture of the femur, who had been treated for a time with other splints, have uniformly expressed a sense of great relief on the substitution of Hodgen's splint. 2d. In the readiness with which extension can be made and regulated, and continued as long as required, without producing excoriation or ulceration from pressure. 3d. In the facility which it affords for inspecting the injured limb, and for examining the wounds. 4th. In the opportunity which it allows for applying topical treatment, such as irrigation, ice, etc.; and, 5th. In the facility which it gives for removing soiled dressings, etc., without disturbing the injured limb.

We have recently employed this splint at Stanton Hospital in the treatment of thirteen cases of gunshot fracture of the femur, and ten cases of gunshot fracture of the tibia. From this experience I am thoroughly convinced that Hodgen's splint fulfils the indications for treatment in cases of gunshot fracture (compound comminuted) of either the femur or the tibia, better than any other apparatus which has come under my notice, and on that account I earnestly recommend it to the consideration of all surgeons who treat this class of injuries.

A description of this apparatus, and the mode of its

application, illustrated with a drawing, can be found in the *AMERICAN MEDICAL TIMES* for May 23, 1863, p. 245.

Yours, etc.,

JOHN A. LIDELL,

Surgeon U.S.V. in charge.

STANTON HOSPITAL, Washington, D.C., Aug. 20, 1868.

## CALOMEL AND TARTAR EMETIC IN THE ARMY.

[To the Editor of the *AMERICAN MEDICAL TIMES*.]

SIR:—The order of the Surgeon-General directing calomel and emetic tartar to be struck from the Medical Supply Table of the Army, has elicited remarks which appear unjust, and neither calculated to benefit those immediately concerned, nor to advance the cause of medical science.

It seems quite useless for writers to accuse those who differ from them of fanaticism on the one hand, or old-fogyism on the other. That it is the duty of the Surgeon-General to do all in his power to preserve the lives and improve the health of those committed to his care, there can be no doubt. That he should do this conscientiously, uninfluenced by any who may have other motives in view than the good of the soldiers, is equally clear. That he is bound to give the public the statistics in detail upon which his decisions are founded, cannot be admitted, as it might expose to censure respectable and useful surgeons who have exercised ordinary skill and care in the discharge of their duties. To use calomel and tartar emetic without injurious effects, requires more skill and greater care than can always be expected in the army. That mercury has been administered to soldiers to an injurious extent, and in cases where it ought not to have been prescribed, is undeniable. Cases have come under my own observation which prove this. Among these are patients with Bright's disease, treated perseveringly by mercury to within a few hours of a fatal termination, on the supposition that the disease was in the liver. It is not supposed that this order will entirely correct this abuse, but it will evidently do good; because calomel is not an indispensable agent, and in ordinary doses it often operates in a violent and unexpected manner, and for this reason is more liable to do injury than other forms of mercury used with the same care.

Physicians may be found in some sections of the country who rarely treat any acute disease without calomel. These gentlemen find the secretions of the liver too small or too great in nearly every case, which can be made right only by the intelligent agent, mercury, which increases or diminishes the action of the liver as may be required, and hence it saves the trouble of exercising reason and common sense.

It seems worth while for those who make so much complaint of the Surgeon-General's order to show that some cases of salivation and gangrene of the cheeks have occurred where no mercury has been administered; and, likewise to prove that the depressing influences to which our soldiers are exposed, as malaria, excessive fatigue, exposure to atmospheric vicissitudes, want of sleep and of nutritious and digestible food, tend to cause pathological conditions for which calomel and tartar emetic are remedial; and, likewise, to examine and see whether they may not be paying their devotions to a golden calf, and not to one of the household gods of legitimate medicine. If they do not wish to read modern pathology, they should study pathological anatomy on the recent subject, and learn if some other cause than hepatic torpor cannot be found for diarrhoea. It may not be amiss for these gentlemen, who are so expert in bilious matters, to demonstrate that mercury has a specific action on the liver, and to show the fallacy of the experiments of Scott, Thudicum, and Innman, which go to prove the contrary. It may be well for them to read Frerichs and Budd on the Liver, and see how much authority they can find for treating its various diseases with calomel.

ILLINOIS.

## Army Medical Intelligence.

### THE MEDICAL INSPECTOR-GENERAL.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,  
WASHINGTON, August 18, 1868.

The resignation of Medical Inspector-General Thomas F. Perley, is accepted, to take effect August 10, 1868. He will turn over all books, papers, etc., pertaining to the office, to Colonel and Medical Inspector-General J. K. Barnes, U.S.A. Dr. Perley has been appointed Surgeon of Volunteers, or rather reappointed, as he formerly held the appointment. Surgeon Perley will proceed to Portland, Me., and await further orders.

Medical Inspector-General J. R. Barnes will enter upon the duties of his office without delay.

By order of the Secretary of War,  
E. D. TOWNSEND,  
Asst. Adjutant-General.

### SUBSTITUTE FOR PORT WINE.

SURGEON-GENERAL'S OFFICE,  
WASHINGTON, August 15, 1868.

CIRCULAR No. 18.—Surgeons-in-charge of hospitals are informed that they can procure a substitute for *port wine*, for the use of the sick, by making proper requisition therefor.

In consequence of the impossibility of procuring pure port wine of the grade formerly issued to the army, an article of Tanagosa wine has been adopted for issue instead.

This wine is light, dry, and astringent, and is the pure juice of the grape, purchased by the Medical Department in bond, and bottled at medical purveying establishments.

WM. A. HAMMOND,  
Surgeon-General.

### HOSPITAL FUND.

SURGEON-GENERAL'S OFFICE,  
WASHINGTON, August 15, 1868.

CIRCULAR No. 14.—Upon the monthly statement of the hospital fund required to be forwarded to this office, Surgeons-in-charge of hospitals will hereafter endorse the name, rank, and station of the Commissary of Subsistence by whom the hospital returns are issued.

As large hospital funds have accrued, and remain unexpended in a few instances, Surgeons-in-charge of hospitals where funds may be from any cause insufficient, are directed to apply to this office for the transfer of a sufficient sum to meet their necessities. The application must state the amount needed, and the specific purpose for which needed, and the circumstances causing the necessity. If the reasons given are satisfactory, the transfers asked for will be made.

WM. A. HAMMOND,  
Surgeon-General.

### ORDERS, CHANGES, &c.

Surgeon John T. Hodgen, U.S.V., has been ordered to report to the Governor of Missouri for duty connected with his appointment as Surgeon-General of that State.

Medical men who wish to join the State Corps of Volunteer Surgeons for service during the exigencies of a battle, should make application to the Surgeon-General of the State in which they are residing.

There are a number of Surgeons and Assistant-Surgeons required for the regiments of U.S. Colored Troops. The pay is the same as that of other regimental medical officers, Surgeons, \$168.00, and Assistant-Surgeons, \$112.88 per month. They must be examined by a Medical Board previous to appointment, and the general principles of examination are the same as those observed in the examination of Assistant-Surgeons of Volunteers. Application should be made to the Surgeon-General, U.S.A., at Washington, D.C., for permission to come before the Board.

Surgeon J. B. Bellangee, U.S.V., is on duty superintending the erection of a new General Hospital, at Morehead City, opposite Beaufort, N. C., at the termination of the Atlantic and North Carolina Railroad.

Surgeon J. E. McDonald, U.S.A., is on duty as Medical Inspector of the 9th Army Corps, at Vicksburg, Miss.

Assistant-Surgeon W. W. Wythes, U.S.V., is on twenty days' leave at Milton, Del.

Surgeon G. F. French, U.S.V., has arrived at the Headquarters Department of the Tennessee, and has been assigned to duty with the staff and escort of Major-General Grant.

Surgeon G. W. Hogeboom, U.S.V., is in charge of General Field-Hospital Cowan, Tenn.

Surgeon A. M. Speer, U.S.V., is on twenty days' leave at Pittsburg, Pa.

Surgeon John Neil, U.S.V., Medical Director, General W. F. Smith's Division, at Hagerstown, Md., has been ordered to report to Surgeon E. Swift, U.S.A., Superintendent of hospitals at Baltimore, Md.

Assistant-Surgeon E. Dodd, U.S.V., is on twenty days' leave at Babylon, N. Y.

Leave of absence on surgeon's certificate to prevent permanent disability has been granted to Surgeon L. Quick, U.S.V.

Surgeon George Suckley, U.S.V., has been assigned to duty as Acting Medical Inspector, 8th Army Corps, Middle Department.

Surgeon Anthony Hager, U.S.A., has been assigned to duty as Medical Director of the District of St. Mary's, Headquarters Point Lookout, Md.

Surgeon Artemas Chapel, U.S.V., has been assigned to duty as Medical Director, 3d Army Corps, Army of the Potomac.

Surgeon William Hayes, U.S.V., as Medical Director of the forces in defence of Maryland Heights and surrounding country, commanded by Brig.-General Lockwood, Headquarters Harper's Ferry, Md.

Surgeon E. B. Dalton, U.S.V., is awaiting orders at Fort Monroe, Va.  
Surgeon W. A. Conover, U.S.V., is sick at Fort Monroe, Va.  
Surgeon D. W. Hand, U.S.V., is awaiting orders at Norfolk, Va.  
Surgeon J. W. Fitzpatrick, U.S.A., is under medical treatment in Washington, D. C.

Surgeon G. W. Varnum, U.S.V., is on duty in charge of the Hospital of the 16th Army Corps, near Vicksburg, Miss.

Surgeon Charles Mayo, U.S.V., is sick at the Hospital of the 18th Army Corps, near Vicksburg, having been relieved as Medical Inspector of the Corps by Surgeon J. R. Ludlow, U.S.V.

Surgeon Fred. A. Kaffer, U.S.V., is on duty at Baton Rouge, La., in charge of the Factory Hospital.

Surgeon Adolph Major has been assigned to duty as Chief Medical Officer at Beaufort, S. C., relieving Surgeon R. B. Bontecou, U.S.V., who has reported to the Medical Director of the Department of the South for special duty.

Surgeon J. T. Hodgen, U.S.V., has been assigned to the charge of the Hospital Transport "Crescent City," on the Mississippi.

Assistant-Surgeon J. P. Wright, U.S.A., in charge of Washington U.S. General Hospital, will, in addition to his other duties, take temporary charge of the Officers' Hospital.

Acting Assistant-Surgeon J. C. Garland, U.S.A. (now an invalid), is relieved from duty in the Officers' General Hospital, and will proceed to Washington, D.C., and report in person to the Surgeon-General.

Acting Assistant-Surgeon E. H. Brown, U.S.A., is relieved from duty in Washington U.S. General Hospital, and will immediately report for duty to the Surgeon-in-charge of Officers' Hospital.

Acting Assistant-Surgeon J. H. Sharp, U.S.A., having reported to this office, is assigned to Washington U.S. Mil. General Hospital, and will, without delay, report for duty to the Surgeon-in-charge.

Acting Assistant-Surgeon H. Bussey, U.S.A., having reported to this office in obedience to orders from Assistant Surgeon-General's Office at St. Louis, Mo., dated August 8, 1868, will relieve Acting Assistant-Surgeon S. Leslie, U.S.A., from duty in Goyoso Hospital.

Acting Assistant-Surgeon S. Leslie, U.S.A., upon being relieved, will repair to Jefferson Barracks, Mo., and report for duty to Surgeon J. F. Randolph, U.S.A., in charge of U.S. Military General Hospital at that place.

Surgeon J. L. Teed, U.S.V., will report in person without delay to Major-General Rosecrans, commanding Department of the Cumberland, and by letter to Assistant Surgeon-General R. C. Wood, at St. Louis, Mo.

By direction of the President, the following named officers are dismissed the service of the United States:

Assistant-Surgeon E. G. Marshall, 19th New York Vols., on account of habitual intoxication.

Assistant-Surgeon Alexander Wilson, 121st Pennsylvania Vols., for absence without leave and drunkenness.

Assistant-Surgeon Alfred House, 14th New York State Militia (54th New York Vols.), having tendered his resignation, is hereby discharged the service of the United States, on account of physical disability, and failure to properly account for his absence from his command, he having rendered but little service to the Government.

A Board will assemble at St. Louis, Mo., on the twentieth day of August, 1868, or as soon thereafter as practicable, to examine and report upon the qualifications of applicants for appointment as commissioned officers of colored troops.

The Board will consist of Colonel D. Houston, 7th Regt. Missouri Vols., Major A. A. Engle, A.D.C., Major L. D. Hubbard, 3d Illinois Cavalry, Captain J. F. Dwight, 4th Missouri Cavalry, and 2d Lieutenant D. W. Whitaker, 10th Regt. Kansas Vols. The junior member of the Board will act as Recorder.

The Commanding General of the Department of the Missouri will detail a surgeon from the volunteer service, to examine as to the physical qualifications of such applicants as may present themselves before the Board for examination.

The Board will continue its sittings from 9 A.M. to 5 P.M. daily, Sundays excepted. It will be governed in its proceedings by the rules and instructions published in General Orders Nos. 148 and 144, War Dept., 1863, and will make reports weekly, or oftener if specially required, of all persons examined by it.

The following officer, having tendered his resignation, is hereby honorably discharged the service of the United States, on account of physical disability:—

Assistant-Surgeon David L. Booth, Mississippi Marine Brigade.

By direction of the President, Assistant-Surgeon John H. Sullivan, U.S.V., is hereby dismissed the service of the United States, for drunkenness and neglect of duty.

Upon the recommendation of the Board of Officers, convened by Special Orders 235, of June 27, 1868, from this office, the following officer is hereby honorably discharged the service of the United States, on account of physical disability:—

Assistant-Surgeon D. A. Moore, 124th Ohio Vols.

Leave of absence is granted the following named officers on surgeon's certificate of disability:—

Hospital Chaplain J. H. Parks, U.S.A., for twenty days.

Assistant-Surgeon G. Reno, 66th New York Vols., for twenty days.

Leave of absence is hereby granted the following officers:—

Surgeon B. A. Vanderkilt, U.S.V., for twenty-four hours, with permission to visit Washington.

Surgeon Zenas E. Bliss, U.S.V., for twenty-four hours, with permission to visit Washington.

Surgeon E. E. Paine, 1st Maine Artillery, for fifteen days.

Surgeon Thomas Sim, U.S.V., having performed the duties to which he was assigned by Special Orders 293, from this office, will return without delay to the Army of the Potomac, and report for duty to Major-General Meade.

The following assignment of medical officers is hereby made:

Assistant-Surgeon C. K. Winné, U.S.A., now on duty at Madison, Ind., to report for duty to the Medical Director, Department of the Monongahela.

Assistant-Surgeon L. S. Comstock, 153th New York Vols., to report for duty to the Medical Director, Department of Washington.

Surgeon Charles H. Crane, U.S.A. now at New York awaiting orders, to report to Colonel W. Hoffman, Commissary General of prisoners in this city, for duties connected with prisoners of war.

The following assignment of medical officers is hereby made:—  
Assistant-Surgeons William E. De Witt and Henry W. Ducahet, U.S.V., recently appointed, to report for duty to the Medical Director, Department of Washington.

Assistant-Surgeon George W. Parker, U.S.V., recently appointed, to report in person to the Surgeon-in-charge of General Hospitals at Annapolis, Md., and by letter to the Medical Director of the Middle Department.

Assistant-Surgeon Frank Reynolds, U.S.V., recently appointed, to report to the Medical Director, Army of the Potomac.

Assistant-Surgeon S. S. Schultz, U.S.V., recently appointed, to report to the Medical Director, Department of the Ohio, at Cincinnati, Ohio.

Assistant-Surgeons J. H. Doughty and Nathan P. Rice, U.S.V., recently appointed, to report to the Medical Director, Department of Virginia, Fort Monroe, Va.

Assistant-Surgeons P. A. White and Otis M. Humphrey, U.S.V., recently appointed, to report to the Medical Director, Department of the Gulf, at New Orleans, La.

Leave of absence is hereby granted the following officer:—

Assistant-Surgeon W. A. Bradley, U.S.A., for seven days.

So much of Special Orders 809, July 18, 1868, as discharged from service private Arthur Bingham, Co. F, 8d New Hampshire Vols., with a view to his enlistment as Hospital Steward, U.S.A., is hereby revoked.

The Surgeon-General will detail a Medical Inspector to relieve Medical Inspector N. S. Townsend, U.S.A., who is hereby granted leave of absence until October 1, 1868.

Leave of absence is hereby granted the following officer:—

Surgeon D. P. Smith, U.S.V., for twenty days.

So much of Special Orders No. 283, of June 26, 1868, from this office, as discharged from service priv. John S. Parker, Co. E. Purnell Legion, Maryland Vols., with a view to his enlistment as Hospital Steward, U.S.A. is hereby revoked.

Surgeon Madison Mills, U.S.A., is hereby assigned to duty as Medical Director of the Department of the Tennessee, and will report in person without delay to the commanding General, accordingly.

So much of Special Orders No. 107, March 6, 1868, from this office, as dismisses Surgeon E. P. Morong, 9d Maryland Vols., is hereby revoked, and he is restored to his position, provided the vacancy has not been filled.

## Medical News.

**DEATH OF DR. J. MOORE NELIGAN.**—Since our last, the medical profession in Ireland has sustained a blow not easily remediable in the unexpected death of Dr. Neligan, at his residence, Clonmel House, near Blackrock. Although Dr. Neligan had been suffering for some time from affection of the kidney, and had found it necessary in consequence to exchange a residence in town for the country, still no apprehension of immediate danger was entertained till a few days before his death; and he had been enabled within a week to fulfil his professional duties. On Thursday last, he was so much worse that little hopes were entertained of his recovery; and on Friday evening (July 24), he expired from, as we understand, uræmic poisoning, the result of the chronic malady of which he was the subject.—*Dublin Medical Press.*

**MEDICAL DEPARTMENT OF LIND UNIVERSITY.**—A new College edifice is in course of erection for the Medical Department of Lind University, in Chicago, Ill., to be completed in September, and used for the next annual course of instruction. It is of brick, three stories high, and will combine all desirable conveniences and comforts. The name of this University having been changed by the Board of Trustees to that of *Lake Forest University*, a new name for the medical school became necessary, and the Faculty have given to it the title of the *Chicago Medical College*, by which it will hereafter be known.—*Boston Journal.*

**SAMUEL A. CARTWRIGHT, M.D.**, died near Jackson, Miss., at 72, well known for his peculiar treatment of Asiatic Cholera, his papers on the Sugar House Cure of Consumption, Experiments on the Alligator, &c., &c. Dr. Cartwright was long a resident of Natchez, and afterwards removed to New Orleans, whence he communicated to the Northern medical press copiously. We are not informed whether he was connected with the medical staff of the Confederate army, but presume, from his advanced age and kind feelings, in past time, towards the North, that he was not. His death will be generally regretted, both North and South, as a genuine medical gentleman and scholar of the old school.—*Chicago Med. Jour.*

## Original Lectures.

DISEASES OF THE RESPIRATORY ORGANS  
IN CHILDREN.BEING A COURSE OF LECTURES PREPARED FOR DELIVERY DURING THE SPRING  
SESSION OF 1899 IN THE COLLEGE OF PHYSICIANS AND SURGEONS, N. Y.

BY THE LATE

C. VAN ALLEN ANDERSON, M.D.,

PHYSICIAN TO CHILDREN'S DEPARTMENT, DEMILT DISPENSARY, N. Y.

## LECTURE VI.—PART III.

## BRONCHITIS.—PNEUMONIA.

UPON auscultation we find that pneumonia is manifested in the child by a subcrepitant râle, by bronchial breathing, by bronchophony, and by dullness on percussion. The true small crepitation which is heard in the pneumonia of the grown person does not occur in infancy and childhood, except when the patient takes an unusually long inspiration, when the air enters the pulmonary vesicles, and a fine crepitus may be distinguished for a moment; when, however, a child breathes in the ordinary manner, the subcrepitant râle is present, and may be regarded as diagnostic of the disorder.

To this râle succeeds quickly enough bronchial respiration, marking the stage of hepatization of the lung. In the child, however, bronchial respiration is not the rough, strong, whistling sound, compared to that produced by blowing air through a quill, which we have in the adult; on the contrary, it is rather feeble and indistinct, and is more allied to the bruit known as rough respiration. It is at first heard in expiration the moment in which the air drives strongly from the chest, vibrates against the walls of the bronchi, and is more clearly conveyed to the ear, both because the vesicular murmur is absent, and because the solidified lung tissue acts as a better conductor of sound. Then it becomes apparent both in expiration and inspiration, and is accompanied by an increase in the resonance of the cry and cough, and of dullness on percussion. The rapidity with which it comes on, and the stage of the disease in which the medical man is called upon, constitute it in very many cases one of the earliest appreciable rational signs.

Coincident with the bronchial respiration, in children who are old enough to enable us to judge by the alteration of the sounds of the voice conveyed through the walls of the chest, will be bronchophony, which most frequently begins with a slight exaggeration of the natural resonance, grows in intensity by degrees, then remains stationary for awhile, and finally, gradually diminishes and dies away. This bronchial voice is manifested in the child at the breast by the resounding of the cry and of the cough, which is easily recognised by the vibration communicated to the walls of the thorax, the ear of the listener at once referring it to a column of air traversing with noise, rapidity, and force, tubes extending through a solid substance.

In a case of pure pneumonia the subcrepitant râle of the first stage disappears entirely when hepatization of the lung has taken place, and bronchial respiration with bronchophony succeed to it. If the termination is to be a fatal one, these sounds become both more distinct and more extensive, prevailing over the whole of the posterior part of the chest, and being audible, also, in front. If, on the other hand, the disease progresses towards resolution, they are replaced from the sixteenth to the nineteenth day by a subcrepitant râle which answers to the resolving crepitus in the pneumonia of the grown person. This change, however, is slow in its advance; a little crepitus is heard at first, which day by day is heard over a larger space, then, by gentle gradations, becomes coarse in its character, like the coarse crepitus of bronchitis, and then is merged in the vesicular breathing, which shows that the pulmonary substance has reassumed its integrity.

AM. MED. TIMES, VOL. VII., No. 10.

There are some particular symptoms of pneumonia which deserve a word or two:

The pain in the side, which is very common in the pneumonia of mature age, if it exists in children, is very difficult to appreciate. In infancy they are unable to express any particular sensation, and percussion of the walls of the chest does not aid us in this instance as it does in pleurisy. When, however, our patients are older, this pain is more frequent and more easily made out. It is dull rather than acute, its duration is not prolonged, and it is increased by the effort of coughing and by percussion.

The most constant symptom is the cough, which is present in all subjects, begins with the earliest stage of the disorder, and lasts through its whole progress. On the first and second days it is short and dry—what is called a hack—then augments in frequency, and at the time of resolution becomes loose and moist. It is not unusual for it to occur in fits like the fits of whooping-cough; but the characteristic hoop is wanting, and the spasmodic expirations are not so intense as in the latter disease. Whether the rust-colored expectoration exists in infants and young children, admits of considerable doubt, but is a point not easy to determine, for the matters which the grown person rejects by spitting, children dispose of by swallowing.

In a disease affecting so profoundly the structure of the lungs, disturbance of the respiration is, of course, a prominent feature. Acceleration of the breathing is remarked from the commencement, especially in children at the breast, and runs up from 40 to 60 in a minute: in older children it rarely exceeds 68. It varies somewhat in its character in different cases, and even in the same case at different times of day; generally though quick it is even and regular, resembling the panting of a dog which has just been running; at other times it is unequal, short, and hissing; and at others, again, the inspiration is normal, while the expiration seems to demand some effort. As the pulse gains more and more frequency in the progress of the complaint, the quickness of the respiration appears to keep pace with it, or that they increase and diminish simultaneously. When the issue of the case is to be an unfortunate one, the breathing grows more and more rapid and difficult, and is associated with a violet color of the face and finger nails, convulsions, coma, and death.

The physiognomy of the child very often affords a clue to the mischief that is being perpetrated within the thorax. We have already referred to the alternate expansion and contraction of the nostrils which accompanies each breath. This movement is observed in nearly every case, is most marked at the commencement of the disease, and bears some relation to the acuteness of the inflammation, and the celerity of the respiration. A bluish coloring may also be remarked about the inferior eyelids in very young children, which becomes more and more distinguishable as the disease advances. The general expression of the face is that of anxiety and restlessness, which, however, towards the end of the attack, is replaced by a sunken and fatigued look which is truly pitiable.

The fever of pneumonia is exceedingly apt to be remittent in character, so much so, indeed, that I have known a child laboring under inflammation of the lungs to be treated by a physician of some experience for ordinary remittent fever. It presents, generally towards evening, a very marked remission, with heat of skin and increase in the frequency of the pulse. The elevation in the temperature of the skin is found, I believe, in no other disorder except scarlatina and typhoid fever, and possesses, as has been already said, a "pungent" feel. The rapidity of the pulse, too, is very great; it ranges from 120 in a minute to 220, which number was once counted by Trousseau. As the case verges towards recovery, this extraordinary frequency gradually fades away; if death approaches, although the pulse loses this character for a short time, it soon regains it, and becomes so swift and small, with the beats running so into one another, that it is an absolute impossibility to reckon it.



Pneumonia in children, then, is a disease which does not often commence abruptly as in the adult, but in the immense majority of cases is preceded by a greater or less amount of bronchitis. It is associated from the first with fever, disturbance of the respiratory function, loss of appetite, a peculiar physiognomy, cough, and certain auscultatory phenomena which in the beginning are not distinctive, but which quickly become so with the advance of the disorder. Its progress is unusually regular, and terminates either in recovery or death: if the former is to be the event, from the sixteenth to the nineteenth day a change is seen in the symptoms; the heat of skin, the rapidity of the pulse and the respiration, gradually diminish; the *alae nasi* no longer dilate, the appearance of the face grows more natural, the cough moist, a subcrepitant *râle* replaces bronchial breathing and bronchophony, which in its turn yields to a coarse crepitus, and finally, to the normal vesicular murmur, while the dullness on percussion also departs with the establishment of these signs of cure.

There is sometimes an imperfect sort of recovery, which, however, comes before a fatal issue. The more alarming symptoms lose some of their intensity, but the pulse retains its frequency, the face is pale, the respiration hurried, and the child wastes away; in other instances, again, all the symptoms grow in intensity until death closes the scene, but in both cases auscultation gives us evidence of extended hepatization of one or both lungs. The mode of death is by asphyxia.

Accustomed as we are to the striking and well pronounced symptoms of pneumonia in the adult—the abrupt commencement of the disorder, the peculiar ache in the side, the characteristic rust-colored expectoration, and the results of auscultation—considering these, it seems at first sight as if there could be no difficulty in the diagnosis of the same complaint in the child. Yet, though, as a general rule, this malady with due care may be easily recognised, there are very many cases in which it is liable either to be overlooked entirely or to be mistaken for some other disorder. For example, ephemeral fever, scarlatina, typhoid fever, and some cerebral affections, possess the same elevation of the temperature of the skin, the same hurry of the respiration, the same febrile movements, and frequently even the same short cough, that are found in pneumonia; and as in the early stage of the latter the auscultatory signs may be readily misunderstood, and the characteristic sputum throughout its course in children is absent, it is easy to perceive that the true nature of the case may be for some time a matter of doubt. It is not until the auscultatory phenomena are clearly and positively established that our hesitation is removed.

Pneumonia may be distinguished from bronchitis by the greater amount of fever, the intensity of all the symptoms, the dullness on percussion, the subcrepitant *râles*, bronchial breathing, and bronchophony. Subcrepitant *râle*, you will remember, is heard also in capillary bronchitis, but in that disease the walls of the chest are resonant; when dullness in its course appears anywhere I believe that it is due to the extension of the inflammation to the substance of the lung, producing partial or general pneumonia. Simple bronchitis, with its sonorous *râle* and coarse crepitus, cannot mislead you, particularly as the normal clearness on percussion is unimpaired.

Pleurisy is marked by much more severe pain than is to be found in pneumonia, and is oftener associated with cerebral disturbance. Children at the breast manifest the access of inflammation of the pleura by violent and continued screaming; whereas a child seized with inflammation of the lungs is sad and depressed, and restless, but does not cry much unless its comfort be interfered with. In both there is dullness on percussion; but in one there may be a friction-sound, and certainly is no subcrepitant *râle*, while in the other there is no friction-sound but the characteristic crepitus. Dr. West thinks that "it may be laid down as a rule, subject to but few

exceptions, that whenever a child is suddenly seized with symptoms which, while they indicate some affection of the lungs, are yet unattended with the auscultatory signs of pneumonia, the disease from which it is suffering is pleurisy; and this probability is rendered almost a certainty if, while the child bears percussion on one side of the chest, it cries and struggles on the slightest attempt on percussion of the opposite side."

There may be cases in which it is impossible to mistake pneumonia at the apex of the lung for tubercles occupying that situation; for if a child be presented to us, of whose history we can learn nothing, with a hot skin, marked fever, and bronchial respiration under one or both clavicles, we are exceedingly likely to think that these symptoms result from the infiltration of tubercular matter. Pneumonia of the summit of the lung, however, is rare, and by waiting until the acute symptoms have subsided, the stethoscope will reveal to us the true cause of the bronchial respiration.

We may form our prognosis of the issue of a case of pneumonia by a consideration of the following conditions:—The original health and age of the child with its social position; the seat and the simplicity or complication of the inflammation. The younger the patient the poorer is his chance, especially if he is born in circumstances which exercise a depressing influence upon his constitution. Pneumonia is the scourge of foundling hospitals, to such an extent, indeed, that of 128 cases observed in the Foundling Hospital at Paris, 127 died.

Pneumonia confined to one side of the chest, and to the inferior lobe, which is not consecutive to any other complaint, and is judiciously treated, nearly always terminates in resolution; but coming on in very young children, or in those who are undergoing the process of dentition, cerebral complications are to be dreaded. Double pneumonia is always more dangerous than single, and inflammation of the lungs appearing in the course of other disorders—such for example, as whooping-cough or croup—is attended with extreme peril.

If we observe that the disease goes through its stages with regularity, that the fever is moderate and the hurry of respiration not extreme, that the face is not particularly sunken, anxious, or livid, that the auscultatory signs are distinct and follow their usual course, that there is no diarrhoea and no convulsions or other cerebral complications, we may confidently expect a return to health. But this opinion must be reversed, if the pulse grows small and rapid, the respiration extremely quick and panting, the irritability and restlessness marked, the chest sounds obscure, particularly if these symptoms are combined with a persistent diarrhoea, feebleness, emaciation, and convulsions.

Pneumonia in the adult has been the battle-ground on which the advocates of the lowering and supporting plans of treating inflammation have met and charged each other. As the disease is precisely the same in the child, all the arguments which have been urged in this famous controversy are equally applicable to it when it occurs in early life; but you will find that the old plan of bleeding and of giving tartar emetic is still proposed by many of the best writers on the diseases of children. My own experience leads me to trust to the opposite manner of meeting this malady; and, therefore, I should recommend you, when you see that your patient is about to have a severe struggle for his life, not to prepare him for the contest by taking away his natural powers, and reducing his already feeble strength as much as you can. Pneumonia is frequently terribly asthenic in its type, and at all events in young children, whose vital powers are very feeble, tends to produce a profound exhaustion.

Your object, then, will be to keep your patient alive, if you can, while nature carries the thoracic trouble through its regular steps to a proper termination. This you cannot effect by leeching, bleeding, or other antiphlogistic measures, as they are called; but you will be more successful by secur-

ing rest, avoiding lowering remedies, acting on the skin and bowels, and at the proper moment, supplying wine and nutritious diet. Warm baths are a remedy whose usefulness does not appear to be justly appreciated, and you will discover that their frequent employment will afford a child a degree of ease and comfort which will sometimes astonish you; their favorable action on the skin may also be aided by the administration of some mild diaphoretic, such as the liquor ammoniæ acetatis. Mild laxatives are also now and then advisable in order to keep the bowels clear, but unless there be obstinate constipation all purging is to be dispensed with. An occasional emetic will help in producing diaphoresis, will clear out the stomach of irritating substances, and will clear the bronchial tubes of tough and viscid mucus, while small doses of Dover's power will exercise a calming and soothing effect. Counter-irritation to the chest by means of some stimulating lotion, or of turpentine, together with the oil-skin jacket, will complete your list of medical appliances.

Close watching of the pulse will inform you at what period stimulants are necessary; but let me caution you not to be afraid of doing harm by giving too much—in many cases their good effect has been lost by sheer timidity. When the pulse begins to gain in frequency and lose in force, employ them instantly, and give them in such doses that their effect upon the auscultation may be manifest.

In treating bronchitis and pneumonia in children, remember the true nature of the disease, and proceed not upon empirical, but physiological and therapeutical principles. Bear in mind that there is no specific against inflammation—that human science has as yet discovered no agent by which its access can be prevented, or its progress checked—but that observation of its progress and termination points out to us ways in which it may be guided to a favorable result. The true physician, and the successful physician, is he who, studying the operations of nature, and humbly learning from her wise procedures, endeavors to aid in bringing about the result that she would accomplish.

## Original Communications.

### SARRACENIA PURPUREA (*Pitcher Plant*), IN THE TREATMENT OF VARIOLA—WITH CASES AND REMARKS.

By A. W. McDOWELL, M.D.,

A. A. SURGEON U.S.A. OF U.S. GENERAL HOSPITAL AT TRENTON, MISSOURI.

THERE have been forty-three cases of small-pox treated in the hospital at Trenton, and of these four died. In the general treatment they were regarded as asthenic cases. Stimulants were prescribed freely, and they were allowed to drink lager beer *ad libitum*. It is very refreshing to these patients, and where they used it with a *relish* they universally did well. I also allowed whiskey, in the form of milk-punch, but I preferred the beer. The diet was eggs and milk; of the latter article I think most favorably. The purely medical part of the treatment to which I wish especially to draw attention, was in the use of the *sarracenia purpurea*. It was prepared according to the following formula:—I used the leaves as I could not obtain the root. An ounce and a half to a quart of boiling water was boiled down to a pint and a half. Of this a wineglassful every six hours was taken.

The first case in which we used this remedy in hospital was a marked one. The patient was *unprotected* by vaccination. For several months he had been a nurse in the hospital. He was taken with violent symptoms; acute pain in the chest, and great difficulty of breathing, excited pulse, together with symptoms of severe pleuritis. The next day the eruption of variola showed itself. We considered this a very favorable case to test the powers of the *sarra-*

*cenia*, but our prejudices were against its use. I exhibited the medicine. It soon showed its virtues. The eruption came out favorably; but instead of proceeding to suppuration, as usual, it began to *dry up*; the swelling of the parts was much diminished, because there was much less irritation from the eruption; the secondary fever that followed was *less*; the symptoms were *all* mitigated; and in a short time, instead of scabbing, with fever and great irritation of the system, the scales fell off like bran. An old nurse who had taken charge of several former patients, to whom the *sarracenia* had not been exhibited, remarked: "Doctor, what is the matter with this man? he acts altogether different from the other small-pox patients; he is all *scaling off*, and every time I make his bed I take out about two handfuls of scales, like bran." He stated the case correctly. The medicine was regarded as perfectly successful. The case was closely observed by all the medical attendants, and all were delighted. The triumph of the medicine seemed complete.

Again: will it prevent pitting, and do away with those ugly scars? Let it speak for itself. Two females were ordered into the hospital by the Port Commander. One had been sick two weeks. I gave her *no sarracenia*. The other was in the second day of the eruption, and had never been vaccinated. I exhibited the *sarracenia*. It produced its usual effects. These females were sisters. The one who took *no sarracenia* was much disfigured, and strongly marked with deep pittings; the other's face scaled off; it was smooth, not pitted, and the vestiges of variola will soon disappear. In the one the local effects were *permanent*, in the other *transitory*. The difference was *marked*. We must therefore regard it as able to prevent disfigurement. It *more* than answered my expectations.

Let me briefly contrast the cases treated without *sarracenia* with those treated with *sarracenia*. In the former cases there was great swelling, much irritation, and extensive suppuration, with prolonged suffering. The limbs were cedematous, so that I was frequently obliged to cut away the under clothing, and the puffiness of the face and hands was distinctly marked. In the latter cases there was no suppuration, consequently no sticking fast of the under garments, *no cedema*, as the suppuration was prevented; the irritative fever was much less; the long tedious stage of scabbing was passed over, and a bran-like scaling took its place. With such a contrast, we can but conclude that *sarracenia* is a most valuable addition to our *Materia Medica*—a medicine sent by a kind Providence to alleviate and mitigate much suffering, and to prevent the disfigurement following a most loathsome disease.

There have been four deaths from small-pox in this hospital. Of these, two men left the camp on a drunken spree; fearing to return, they took up their quarters in a deserted shanty where a female had died with confluent small-pox. They used her bed as she had left it, with clothes unchanged. They remained drunk two days. They were unvaccinated, and had variola maligna. One from the commencement passed bloody stools; neither would take stimulants, and both rapidly sank. I will recapitulate. Of forty-three cases of variola treated in this hospital, in thirty-six cases the *sarracenia* was exhibited; there were four deaths. I have made a fair and impartial statement of facts, and think the conclusion is inevitable—that *sarracenia purpurea* is a most useful medicine in variola.

GENERAL HOSPITAL, TRENTON, MO., Aug. 25, 1868.

THE BRITISH MEDICAL ASSOCIATION.—The annual meeting of this Association was held last week at Bristol, under the Presidency of Dr. Symonds. The Addresses were delivered as follows:—Medicine, Dr. W. Budd; Surgery, Mr. Augustin Prichard; Midwifery, Dr. Swayne; Chemistry, Dr. Bird Herapath. The President delivered an eloquent address, papers were read on various subjects, and the meeting terminated with a public dinner. The practitioners of Bristol received their visitors with general and liberal hospitality.—*Lancet*.

## DIATHESIS.

By DR. ANDERSON,  
OF ILLINOIS.

[Being a Paper read at the last Meeting of the American Medical Association held at Chicago.]

THE term diathesis is used to express any general constitutional condition which exerts modifying influences upon the course of disease.

These conditions produce very powerful and controlling effects upon the results of surgical injuries and operations, and to one of them alone, viz. the aplastic diathesis, ten per cent. of the deaths in surgical cases are due. This mortality is capable of being entirely prevented by means now within our knowledge and control. Yet the subject is difficult, and, being incapable of the attractions of pictorial illustration, is liable to be overlooked by superficial observers.

A great variety of diatheses exist, each having its own peculiar character; but the two which have the most important surgical relations, are the *aplastic* and the *hyperplastic*.

The *aplastic diathesis* is that condition of the system in which there is an excessive tendency to a dissolved condition of all protein compounds, the blood-corpuscles breaking down, the solid tissues readily ulcerating, and all the products of inflammation taking a liquid form, being either degenerated blood, serum, or pus. At the same time, there is a more or less striking absence of the power of depositing plastic lymph around inflamed points. It is in this diathesis alone that the patient becomes capable of those fatal aplastic diseases—traumatic erysipelas, diffusive phlebitis, pyæmia, and hospital gangrene. The deaths from these causes, amounting to ten per cent. of all mortality after surgical operations, may all be prevented.

The causes of the aplastic diathesis probably operate by inducing an excessively alkaline condition of the system. Alkalies are the natural solvents which in the human body maintain the liquid form of certain protein compounds, such as fibrin, albumen, caseine, etc., whether found in the blood, pus, or serum. It is probable, therefore, that an excess of these alkalies would have the effect to keep these compounds in the liquid form to an excessive extent. All the products of aplastic inflammation and effusion, whether blood, serum, or pus, are alkaline. Besides, the effluvia of decomposing animal secretions, which are the most powerful external causes of aplasticity, are all saturated with alkaline gases of the ammoniacal series.

As was just remarked, the most powerful external cause of the aplastic diathesis is the exposure of the patient to the depressing alkaline effluvia from decomposing pus, urine, or other animal products.

I saw this repeatedly exemplified during my service in the army. The crowding of too many wounded men into hospitals always produced within three days the evidences of aplasticity. Of two hospital steamers, after a battle near Vicksburg, where one was overcrowded and the other was not, the mortality on board the one not crowded was five per cent., and on the other, thirteen and a half per cent., the excess being due to erysipelas, pyæmia, and secondary hæmorrhages. So striking are these results that it is easy by the sixth day to distinguish the men who have lain in an overcrowded ward, simply by the appearance of the wounds. A thousand men of this sort, mixed with a thousand others who have been kept in perfectly pure air, could readily be separated by inspection of the wounds alone.

The effect of the aplastic diathesis is to prevent all that effusion of plastic lymph necessary to the repair of injured tissues, and to drain away the nutritive material of the blood in an excessive flow of pus or serum, thus exhausting the patient. In this diathesis incised wounds do not readily unite by first intention; lacerated wounds do not granulate freely; ulcerations become phagedænic; injured vessels reopen after ligature, and sound ones give way to

ulceration, producing secondary hæmorrhage; and most important of all, the irritant animal poison found in erysipelas and hospital gangrene, when formed or received in any part of the body, spreads and produces rapidly fatal results, because its action is not limited by any barrier of plastic lymph.

The relation of this important poison to the aplastic diathesis is as follows:—The poison may be inoculated into a plastic constitution, but it will not there produce either erysipelas or hospital gangrene. The irritated spot is immediately surrounded by plastic lymph, a local abscess ensues, and the poison is expelled with the pus. A plastic constitution cannot have erysipelas; but an aplastic one is liable to all the mischiefs resulting from diffusion of the poison in a liquid form through all parts of the body. I suppose that the suppurative inflammation of the internal coats of the veins results from the poisonous lymph taken up by the lymphatics at the affected part being carried into the venous current. Hence pyæmia.

The aplastic diathesis may exist without the poison, and the poison may be present without the diathesis; but when both are present, a fatal result is to be feared. Both the aplastic diathesis and the existence of the erysipelatous poison may be epidemic. The presence of these conditions produces a malignant character in the prevailing distemper. At such times malignant scarlet fever, hospital gangrene, puerperal peritonitis, confluent small-pox, and all other malignant local inflammations, are found to contain the erysipelatous poison, and are capable by inoculation or contagion of propagating erysipelas in aplastic, and abscesses in plastic constitutions.

The aplastic diathesis can be diagnosed in advance of a surgical operation, so as to enable the practitioner to guard against its effects. This may be done by carefully studying the condition of any abrasions, pimples, scratches, etc., some of which may be found upon the skin of almost every patient, or at any rate may be made in important cases for the purpose of diagnosis. They show the effects of the diathesis in the same manner as larger injuries.

The treatment of the aplastic diathesis consists—1st. In securing a perfectly fresh and pure air for respiration; 2d, the administration of such remedies internally and externally as will neutralize the alkalies. Such are the tincture of iron, iodine, chloride of zinc, sulphate of iron, bromine, sulphuric, muriatic, and nitric acids, etc. Chlorine, iodine, and bromine, not only neutralize alkalies, but destroy animal poisons. Practically, I use mur. tinct. of iron in doses of twenty drops internally every one or two hours, and tincture of iodine with glycerine kept constantly upon any local manifestation of the poison.

By the free use of the tincture of iron the diathesis may be changed from aplastic to plastic in thirty hours, and a marked improvement be manifested in the parts affected. For the past five years I have made a constant practice of giving muriated tinct. of iron as a prophylactic after surgical operations, always commencing its administration in a few hours without waiting for any actual manifestation of aplastic diseases. Since I have commenced this precaution, no patient of mine has ever died of traumatic erysipelas, phlebitis, or pyæmia, and yet I have operated in a vast number of cases, and ought, under the ordinary management, to have lost a number of patients by these complications. Erysipelas under this prophylactic treatment sometimes makes an effort to commence, but is readily conquered without dangerous results. I now feel perfectly safe in this respect, and have ceased to reckon erysipelas, phlebitis, or pyæmia, among the risks of my operations, if I have control of the patient.

The *normal diathesis* is that where neither plasticity nor aplasticity is in excess, but where the medium happily prevails.

The *hyperplastic diathesis* is the opposite extreme from the aplastic. It is probably caused, as claimed by Fuller in his work on rheumatism, by the excess of acids in the system. It is marked by an excessive tendency to solid

deposits in inflammation. Suppuration is difficult, and when it occurs, is surrounded by a hard plastic tumor. Wounds unite readily by first intention, but contusions and sprains form hard swellings, which are slow to suppurate, slow to resolve, and often keep the patient lamed for a year after the injury. Erysipelas, diffuse phlebitis, and pyæmia, are impossible, unless this diathesis is first overcome; but the inoculation of the erysipelatous poison results only in the formation of local inflamed tumors, which occasionally suppurate and discharge from the summit of a hard, well-defined swelling. Very painful felons occasionally result if the poison is applied to the hands.

The signs of this diathesis are:—1st. Any symptoms of genuine rheumatic tendencies—rheumatism being the typical disease of the hyperplastic diathesis as much as erysipelas is of the aplastic. 2d. Rapid drying up of scratches, abrasions, pimples, etc., upon the skin, without any tendency to suppuration. 3d. Absence of all disposition to pustular eruptions, the skin being clear, and often a little coarse, dry, and firm in its appearance. If there are any eruptions, they are apt to be of the scaly varieties, showing a tendency to excessive development of the cuticle.

I pass over the consideration of the cancerous, tuberculous, and syphilitic cachexies, for want of time at the present, designing to return to the topic at a future meeting.

## Reports of Societies.

### NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, May 20, 1868.

DR. JAMES ANDERSON, PRESIDENT, IN THE CHAIR.

#### DISCUSSION ON HOSPITAL GANGRENE.

DR. PARKER opened the discussion by remarking as follows:—

Mr. President and Gentlemen of the Academy:—The subject of hospital gangrene is one that has attracted a great deal of attention of late among us, especially since the commencement of the present war. Before that, hospital gangrene was but rarely met with, except now and then in our large hospitals. I have not had the opportunity of encountering the disease to any great extent but once, and that was only since the war commenced; hence my experience must be necessarily limited.

Hospital gangrene is so called, I suppose, because it has been met with almost exclusively in hospitals. I have met with but one case in private practice, and that case happened to have been brought from a hospital.

Very little has been written of this disease until within the past few years. Celsus, Avicenna, and Ambrose Paré hardly refer to it, yet we have no doubt that it existed then as now, inasmuch as there were present the same circumstances to produce it. We find the disease particularly spoken of in 1322, as being exceedingly rife in Paris, at the Hotel Dieu. At that time it was very destructive. We again find it spoken of in 1780, by Puto. He was then interne at the hospital at Lyons. He spoke of the disease as we meet with it in wards, and indeed went so far as to question the utility of hospitals altogether, inasmuch as he stated that eleven-twelfths of all those attacked with the disease perished. We find, also, when it existed in Paris, that it was very destructive. It is stated that of twenty-two cases of amputation performed there, every stump was attacked, showing the contagious character of the disease.

From 1783 up to 1814 we have various accounts of this disease, but no full history of its characters until after the Peninsular war. At that time the French and English surgeons saw a great deal of this disease. Before that time the generally prevailing opinion was that the disease was constitutional in character, but since then the opposite opinion has more generally prevailed.

The next point I wish to refer to is simply this, the dif-

ference between hospital gangrene and common gangrene. There is a difference, and a very great one! I am prepared to say that hospital gangrene is a disease in fact, as distinct from common gangrene as is a fracture from a dislocation. We understand by common gangrene, merely the death of a part either as the result of violent inflammation, the result of strangulation or violent injury, of excess or diminution of caloric, of infiltration and, in fact, in a great variety of ways. Common gangrene occurs only in individuals whose systems are more or less broken down, but we find that this is not the case with hospital gangrene; hospital gangrene may occur in the strongest constitutions.

Hospital gangrene seems to depend upon a specific poison, for we always find it presenting the same physiognomy. We may from this observe *a posteriori* that the cause is all the same. Now, what is the cause of hospital gangrene? I have said that it is met with only in hospitals. I believe that the same causes operate to produce hospital gangrene which are necessary for the development of typhus or typhoid fevers, but with this addition, the presence of suppurating wounds! Superadded to the effects of bad ventilation we have, also, the results of the decomposition of pus and other discharges from wounds.

How does this cause operate? I know that some assume, on the one hand, that it operates locally; and still others, that it operates through the constitution. We all know that small-pox may be developed either through vaccination or by direct exposure to contagion; and I believe that very much the same thing is true with reference to hospital gangrene. We may have in some cases the local symptoms showing themselves first, and then subsequently the constitutional symptoms, and *vice versa*. Dr. Ball, who has written an Inaugural Thesis on Hospital Gangrene, the result of observation during the summer months while engaged in the hospital in charge of Dr. Weir, in Frederick, enumerates forty-three cases, in five of which he states that the constitutional symptoms were the first ones that showed themselves. Hospital gangrene may be propagated in a variety of ways, by the promiscuous use of sponges, basins, and the like, and, in a word, where the disease is prevailing.

According to the assertions of Mr. Blackadder, a surgeon of eminence in the Peninsular war, hospital gangrene cannot be propagated by actual contact, unless there be an abrasion of the skin. But after all, there is a great deal of discrepancy in reference to the fact of local causation among different observers. A French surgeon, by the name of Olivier, with a view to a settlement of this point, determined to experiment by inoculating his own person. He inoculated himself after the manner of vaccination, and found that a distinct vesicle appeared on the second or third day, and that on the fifth day a slough had formed. At this point, however, he arrested its progress by cauterization.

There are numerous instances to prove that the contagion may operate through the atmosphere. There were some beautiful cases illustrating this point in the hospital at Frederick, where a large number of patients were attacked with gangrene and placed in tents, in such a situation that the hospital was to the windward. So long as the wind was away from the hospital they were free from contagion, but when the wind changed, a considerable number of cases were attacked. Again, a door was opened communicating with a ward containing gangrene; the patients nearest to the said door in the other ward were attacked by the disease.

Now, with reference to the symptoms, they may be divided into constitutional and local. The constitutional symptoms consist, in the first place, in a general upset of the nervous system; the patient is restless, the pulse is small and snappish, the appetite is very frequently lost; there may be vomiting and also diarrhoea, coupled with typhoid symptoms. Locally, the character of the ulcer is very peculiar: it may be either dry or moist; its base is covered with a grey slough, and its edges are everted, giving it very

much the look of a large chancre; sometimes it is covered by a diphtheritic-looking membrane. Sometimes the edges of the ulcer are undermined, and the muscles are dissected out; sometimes the ulceration would travel off in a circular form from the main ulceration. The pain which invariably accompanies it is also very peculiar; it is generally spoken of by the patients as being "sharp, burning, and tingling." In reference to the diagnosis of this disease there can be no difficulty after the ulcer has been once seen.

I saw a large number of cases last summer at the New York Hospital, and afterwards at Bellevue, and with the assistance of my friend Dr. Peck, I made trial of almost everything claimed to be useful in the treatment of the disease, and we came to the conclusion that what is called there the disinfecting powder, composed of percarb. of iron, pulv. cinchona, and opium, was the most grateful application, while constitutionally there was nothing to equal the scattering of patients, the plentiful supply of *fresh air*, a *clean skin*, and *generous diet*. Dr. Ball states that Dr. Weir was very successful in his treatment of the cases, but what did he do? He put them out in tents where they had plenty of fresh air! Dr. Ball also lays a good deal of stress on the good effects of nitric acid locally applied, and I find that the average number of applications for each patient was eight. What does this cautery do? It merely destroys the sensitive skin, and by so doing alleviates irritation. Now the cauterization, so far, is well enough, but while you are doing all this the time occupied is sufficient for the patient to do either one of the two things, to die or to get well, and he will be apt to do either one or the other according as you give him or keep him from a *good substantial supply of fresh air*!

#### NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, March 25, 1868.

DR. H. B. SANDS, VICE-PRESIDENT, IN THE CHAIR.

##### MUMMIFIED HEADS.

DR. MERRITT presented a photographic view of the mummified heads which had already been exhibited to the Society, and made some additional remarks upon the specimens. He was of the opinion that they were the heads of warriors who had fallen in battle, as in the temporal region of each there was a wound which looked as if made by a spear. He thought it also probable that the heads, after having been deprived of their bony textures, were stuffed by some elastic material during the process of preparation, in order that the natural conformity of the parts might be maintained. It was also evident to him that these heads had been preserved as trophies, and afterwards been buried with the victors.

##### CYST FROM ANTERIOR CERVICAL REGION, CONTAINING PUS AND HAIR.

DR. POST presented a small cyst, removed from the submaxillary region of the neck of a lady a few weeks before. It was interesting in reference to its contents, which were made up entirely of pus and hair.

A second specimen consisted of fragments of a urinary calculus removed by the lateral operation for lithotomy. The point of interest consisted in the age of the patient, which was but two years and three months. The weight of the fragments was 111 grains.

DR. CLARK exhibited on behalf of Dr. Johnson a rupture of the aorta. The rent was transverse, running two-thirds of the way around the vessel, extending through the middle and a greater part of the middle coat, and leaving the outer coat entire with some fibres of elastic coat tissue attached to it. It then did not go downwards as ruptures of this sort frequently do, but at a point below the reflexion of the pericardium found its way through the outer coat, consequently opening into the pericardial sac. At one part of the base of the aorta upon the outside was quite a large clot, which was the result of infiltration of blood into the

areolar tissue in that vicinity. The aorta was atheromatous in patches.

The following history, furnished by Dr. Johnson, was next read:—

"Catherine Holland, æt. 70, native of Ireland, a pauper, was admitted to the receiving ward, March 7th, 1863, at half past ten A.M. Her symptoms upon admittance were weakness, with nausea and vomiting. She continued in about this condition till about half past four P.M., when she complained of pain in the præcordial region, and was seized with convulsions, and died immediately. She had previously been under the care of my colleague, Dr. Roof, and was discharged March 2d, improved, her symptoms having been those of dyspepsia. On the morning of March 7th, while at the Almshouse and before being transferred, she fell down in a kind of fit, I should judge, as near as I can learn, while going to breakfast. This is all that I have been able to ascertain relative to the case.

"Upon *post-mortem* examination, the ascending portion of the arch of the aorta was found to be ruptured, and the pericardium filled with coagulated blood, the lower part of the rupture being about half an inch above the valves, the rupture being in the form of an obtuse angle, and about two inches in length. The aorta itself was to all appearance healthy. There were a few old pleuritic adhesions of the lungs to the walls of the chest, the lungs themselves being healthy. There was fatty degeneration of the liver to a considerable extent. The kidneys were small and contracted, and presented marked evidences of Bright's disease. There were also a few cysts found in each kidney, and in the external surface. The spleen was of normal size and condition. The brain was also healthy."

##### CANCER OF THE LUNGS.

DR. CLARK, in the absence of Dr. Wood, presented a specimen of cancer of the lung for that gentleman, and remarked upon it as follows:—

I will exhibit the lung, and give only so much of the history as will be necessary to understand the rest, and leave the fuller history for Dr. Wood at another meeting. It is to my observation a new form of secondary cancer of the lung. The form that it assumes upon the pleura is not new; there it is in patches, and at certain points has considerable prominence. The largest of these scales equal in size the little finger-nail, while the smaller are mere points, there being a great many variations in size between these two limits. They did not seem to have excited any pleuritic inflammation, but remained as mere appendages to that membrane. This same material found upon the pleura is scattered through the lung, and wherever it existed in greatest quantity there was an induration of the lung tissue analogous to that which occurs in chronic pneumonia; that is to say, an increase in its fibrous tissue, and consequent diminution in the size of its air-cells. The lady died of apnoea, and during her life, having seen her two or three times, I was left in doubt whether the disease in her lungs was tuberculous or cancerous. I could find no considerable accumulation of cancer anywhere. Her great difficulty was in getting her breath.

The *post-mortem* examination revealed that the lung in a great many portions was not expansible in consequence of these hard masses, which were lost by a sort of diffusion into the surrounding tissue. The particular form of cancer, and the details of the appearances of the lung, I will leave until Dr. Wood gives the history.

##### MULTILOCULAR OVARIAN CYST.

DR. FINNELL presented a multilocular ovarian cyst, removed from a woman aged seventy, who died a few days before at St. Vincent's Hospital. According to her statement, the tumor was only fourteen months in growing. She was tapped twice, at short intervals, but the fluid at each time rapidly accumulated, and she gradually sank and died.

At *post-mortem* examination, the tumor was found to

weigh thirty pounds. There were a few slight adhesions over its anterior surface, and, what was quite remarkable, the pedicle was only equal in thickness to the middle finger.

## FOREIGN CORRESPONDENCE.

### LETTER XLIII.

By PROF. CHARLES A. LEE.

MANTUA, Nov. 29, 1862.

MILITARY HOSPITAL AT VERONA; AUSTRIAN BARRACKS AND COOKING ARRANGEMENTS; RATIONS AND MONEY ALLOWANCE TO AUSTRIAN SOLDIERS; DRY AND COMPRESSED VEGETABLES FOR ARMY USES; TOPOGRAPHY OF MANTUA, ETC.

As it does not enter into the plan of these letters to describe cities, towns, antiquities, curiosities, architecture, paintings, or statuary, I pass them mostly by as usual, and confine myself mainly to those topics which more immediately interest the medical observer. Otherwise, I should be strongly tempted to give some account of the old cities, Vicenza, Verona, Mantua, etc., and especially their immense and extended fortifications, many of them recently erected by the Austrians, which seem absolutely impregnable, and in the construction of which military art has exhausted all its known resources. Sufficient details, however, in regard to these matters, may be found in several recent works of travels, and I therefore shall, as heretofore, confine myself chiefly to medical topics.

I saw nothing in a medical way worth special mention in old Vicenza, famed for Palladian architecture; but in Verona there is a new military hospital, lately built, deserving particular notice. It occupies an elevated site on the banks of the Adige, near the walls, and has accommodations for about 1500 beds. The building is quadrangular in form, two stories, with corridors and basement. The transverse wards are calculated for twenty patients each, with one large window in the centre opening on the exterior, and a door directly opposite on the corridor. Over this door is a large window extending nearly to the ceiling. Thus, the windows and doors being open, the direct draught is through the middle of the ward, and not over the patients, while beds are arranged on each side, with their heads towards the walls. At night, a gaslight in the corridor, and close to the window over the door, suffices to light the ward, as well as the corridor, and no other light is admitted into the room, except by special order. The rooms are all arched with brick, plastered on the solid wall, and warmed by an iron stove in the middle, but at one side of the ward. The wards and corridors have wooden floors, except the basement, where they are of stone in parts that do not communicate with wards, where they are of wood. There is a water-closet, about four feet square, in the corner of each ward, the stool or water-pan being placed in a recess in the thickness of the masonry of the corridor partition. A low and small door in the corridor communicates from this recess, so that when the patient has left the closet, and closed the door into the ward, a servant from without can at once remove the stool, thus avoiding offensive effluvia in the ward, as well as exposure and risk in leaving the room for one, perhaps, of a different temperature. Besides the means of ventilation already mentioned, there is under the windows, opening on the exterior, a smaller one of two feet square near the floor, to admit fresh air at the lowest part of the room, and a similar opening of twelve inches square next to the ceiling over the door, to allow the escape of warm and foul air as it ascends. The latter is closed by a valve movable at pleasure; the one under the window is closed by a solid shutter.

The bathing-rooms are fitted up on a very extensive scale, and are supplied with hot and cold water-baths, steam-baths, douche, etc. For steam-bathing, a large room is fitted with rows of bedsteads, one rising above the other in steps, like an amphitheatre, with sloping head-board for the comfort of the patient, who is laid in his blanket on

one of these wooden platforms or bedsteads, and steamed by the admission of any degree and quantity of steam from the boiler in an adjacent apartment. In the adjoining room are small apartments or stalls, of sizes suited for patients standing, sitting, or reclining, fitted with pipes and faucets, admitting a shower-bath from above, or horizontal jets from the sides, or a perpendicular jet falling quietly on the patient, thus furnishing ample facilities for every kind of local or general bath.

Two other large apartments are fitted up with thirty-six large marble bathing-tubs, with tubes and valves for hot and cold water. These tubs are sunk several inches in the floor, the top remaining about one foot above, making it easy of entrance by the invalid, and at the same time convenient to put a patient in the bath who may require assistance.

In another apartment is a large boiler, set in masonry, for steam and hot water for the bathing-rooms; and connected with this is a room containing a reservoir or cistern, rising nearly to the ceiling, supplying a head of cold water for the bathing-rooms, steam-boilers, etc. This reservoir is supplied with water pumped by manual labor from the river Adige. All the bathing-establishment, the store-rooms, apothecary's department, and kitchens, are on the basement floor, and elevated about three feet above the court-yard.

The whole establishment is under the superintendence of a Major of Artillery, the surgeons having none but their professional duties to perform. The daily dietary of each patient is written on a board at the head of his bed. In the routine of serving rations, etc., nothing different from usual custom was observed, except that every bed was provided with a board about fourteen inches wide and twenty inches long, with edges rising about a quarter of an inch above the surface, answering as a table or waiter, on which to place his food, tumbler, fork, spoon, &c. There are special wards for cutaneous, infectious, and contagious diseases, as well as the insane, which are under lock and key, and guarded by sentinels. In the insane ward the stove is in one corner of the room, and protected by an iron grating, so as to be inaccessible. The amputation table is similar to what is sometimes seen in our own hospitals, consisting of an iron frame as a bedstead, in three equal divisions, connected by hinges, allowing the head or foot part being raised or lowered at pleasure to any inclination from sitting to lying horizontally. The centre part is fixed to an iron elevating screw, so as to be raised or lowered to any required height, while the whole revolves on its centre or vertical pin, the head and foot framepieces, as already stated, being fixed at any angle at the will of the operator.

The dead-house is of stone, arched with brick, with tile roof. On the right of the entrance is a guard-room, where some one is in attendance night and day. An adjoining apartment of the same size is for autopsic examinations. Behind these two, and extending the whole length of the building, is the apartment for the dead, with a window at each end. The bodies are laid on inclined planes, side by side; to the hand or foot of each one is attached a bell-pull, communicating with a bell in the guard-room, occupied by a guard of four soldiers, so that prompt aid may be rendered in cases of resuscitation. But I could not ascertain that any such cases had ever happened. The floors, tubs, etc., of this building, are of polished marble.

The civil hospitals at Verona are far inferior in all their arrangements to the military, and present nothing worthy of special remark—soups and potages constitute the principal diet of the patients.

At Mantua, I also found a very strong force of Austrian troops, with hospital and barrack arrangements perhaps inferior to those at Verona, but still well planned and comfortable. In general, the Austrian barracks for infantry may be pronounced superior to any in Europe, and many of them are not of very recent date. For the most part the buildings are of quadrangular shape, surrounding an interior court. They are usually of brick, two stories, with



formations of the heart, alluding incidentally to cyanosis, but their writings contain valuable matter for statistics bearing on the latter subject. Farre's book was published in 1814, and is out of print; Chevers published his papers in the *Lond. Med. Gazette*, commencing in the year 1845 and running through several successive volumes. Peacock's treatise was published in 1858. It contains several original cases, previously narrated by him to the London Pathological Society. The paper by Moreton Stillé, which has attracted much attention, especially in Europe, was his Inaugural Thesis, and was published in the *Amer. Jour. of Med. Sci.*, in 1844. This paper relates entirely, in the words of the author, to "the laws of the causation of cyanosis." The only really complete statistical paper on the blue disease is that by M. Gintrac, published in 1824, in Paris, and embracing all the cases which had been accurately reported up to that time, namely, fifty three. He, indeed, exhausted the subject for the period in which he wrote, and were it not for the vast accumulation of material since, my task would not have been undertaken.

Two theories in explanation of the occurrence of cyanosis have divided the profession; the one attributing it to obstruction at the centre of circulation, and consequent venous congestion: the other, to admixture of venous and arterial blood through openings in the septa of the heart, or through the ductus arteriosus. The former of these theories originated with Morgagni more than one hundred years ago, and is essentially the same as that advocated by Stillé. Stillé errs in placing Morgagni among the advocates of the other system. The second theory, or that which attributes cyanosis to admixture of venous and arterial blood, is said by Dr. Peacock to have originated with Hunter, but its ablest supporter was Gintrac. Of late there are some pathologists who do not believe that either theory is sufficient to explain the cause of cyanosis, and that the true explanation lies somewhere between the two. Among the most conspicuous of these is Prof. Walshe of London. These theories will be considered in the proper places.

A venous or carbonaceous and non-oxygenated state of the blood may be produced by causes operating in three distinct ways:—First, by obstruction in the air passages, preventing the necessary entrance of air, such as foreign bodies in the larynx, the membranous deposit of croup, thickening of the mucous membrane in severe bronchitis; but the venous condition of the blood, in these cases, is too transient to entitle it to the name cyanosis. Secondly, it may be due to the state of the lungs themselves; but the recorded cases of permanent venous blood, or cyanosis in which these organs were in fault are so few that they may be narrated.

In the *Edinburgh Med. Jour.* for October, 1805, Dr. Alex. Marcet, physician to Guy's Hospital, published the case of a lady, twenty-one years old, who during the last part of her life was cyanotic. The autopsy was made by Sir, then Mr. Astley Cooper. The heart was healthy; the lungs seemed distended by an unusual quantity of dark-colored blood, but were free from tubercles or any other appearance of disease; their substance seemed rather more compact than usual, particularly in the left lobe, but still it did not sink in water. "The lungs adhered everywhere to the inner surface of the chest, to the diaphragm, and to the pleura covering the pericardium. These adhesions were some of long standing, others just forming; these last composed of coagulable lymph, having the appearance and texture of jelly, and exhibiting signs of incipient organization." In this case, which subsequent writers have occasionally alluded to, the cyanosis was attributed to the extensive attachment of the surface of the lungs which embarrassed the movements of this organ.

In the April number of the *Glasgow Medical Jour.*, 1855, Dr. Joseph Bell published the history of a man who died at the age of twenty-three years. During the last four or five years of his life he was troubled with a cough, his fingers and toes were bulbous, and nails incurvated. He had general lividity, or duskiess, at least four years. The

heart was lower in the chest, and more to the right than usual, and was enlarged; the ventricles were dilated, especially the right, the walls of which were attenuated, but all the valves were healthy; lungs extensively emphysematous; mucous membrane of bronchial tubes thickened and congested. The obstacle to the arterialization of the blood in this case was believed to be the extensive emphysema. In both patients the heart appears to have been perfect.

The following case was narrated by Dr. Peacock to the *Lond. Path. Soc.*, April 5, 1859. A female twenty-four years old, had lividity of the whole surface for a month preceding her death. She had spinal curvature, complained of headache, and finally became delirious, and died comatose. "The heart was large, weighing oz. xijss; great dilation of the right auricle, right ventricle, and the pulmonary artery." The walls of the right ventricle measured four and a half lines at the thickest part. "The pulmonary artery allowed the passage of a ball forty-eight French lines in circumference, while the aortic orifice only admitted one measuring thirty-three lines. The fossa of the foramen ovale was very greatly expanded, and the valve was defective at its anterior edge, leaving an aperture between it and the isthmus of about three lines in diameter." Dr. Peacock, who has given much attention to malformations of the heart, and is the best authority on this subject, believes the cyanosis in this case was due to compression of the lungs from the spinal curvature, but thinks it questionable whether it would have been present had the heart been in a perfectly normal state.

In the *British and Foreign Medico-Chir. Rev.*, Jan., 1860, copied from a continental journal, is the history of "a girl, one year old, apparently healthy to her fifth month; then she presented symptoms of asphyxia, with sibilant respiration, irregular and tumultuous action of the heart, aggravated by lying on the right side, and accompanied by blueness of the face and hands. The attacks occurred in paroxysms, with increased frequency and violence, in one of which the child died. The discoloration of the skin remained during the intervals. The heart was found to be normal, the ductus arteriosus closed, but the foramen ovale sufficiently open to permit the passage of a bristle. The right lung presented the usual lobar divisions. On the inner surface, towards the heart, some large vesicles projected above the surface, varying in size from a hempseed to a pea. The left lung presented the main divisions into lobes; the lower one consisted of three tongue-shaped lobules, their parenchyma being throughout pervious to air. The upper part of the left lung formed a large fibrous sac, with very thin parietes, the pulmonary tissue being cut off abruptly at its margin. The sac was full of air, lined with a smooth mucous membrane which presented full and prominent folds. The largest folds were found near the root of the lungs, where they were found to overlay the orifices of the bronchi. There was some chalky deposit on the posterior wall of the sac. The sac measured vertically 111 millimetres, transversely 93 millimetres (4.36 by 3.65 inches)." The cyanosis in this case, which was reported by Prof. Meyer of Zurich, was believed by him to be due to malformation of the lungs of an emphysematous character.

These four are the only cases which I have been able to find in which cyanosis was due to the condition of the lungs, and they are so few that they may be left out of account in the study of the disease.

Thirdly, imperfect arterialization of the blood may be due to causes which affect directly the circulatory system, such as, on the one hand, probably, certain malignant or grave diseases, as cholera, in which the circulation is embarrassed by the inspissation of the blood; and, on the other hand, structural errors, preventing the free and regular flow of blood to or from the lungs. Under this latter head come all cases of cyanosis, with a few exceptions, like those mentioned above, in which the lungs are in fault, and the error of structure has been found in every case either in the

heart or in the great vessels in immediate connexion with it.

Writers on cyanosis state that there is a preponderance of males to females affected with it. Aberle of Vienna says that two thirds were males in an aggregate of 180 cases which he collated. In Gintrac's cases 28 were males and 16 females; in Stillé's, 41 were males and 31 females. The sex is recorded in 134 of the cases collected by me, of which 78 were males, 56 females; and if those cases are excluded in which cyanosis was due to obstruction at the mouth of the pulmonary artery, the number of the two sexes is the same. Since January, 1858, according to the Reports of the City Inspector, 207 have died in this city from cyanosis, of which number 117 were males, 90 females. In England, for two years, 418 males died of cyanosis, and 273 females. Although statistics of different cities and countries agree in the fact of an excess of males over females, there does not appear to be that great preponderance of males which the earlier writers on this disease believed to exist.

The cause of the malformation on which cyanosis depends is wrapt in much obscurity. Sometimes mothers attribute it to strong mental impressions felt during uterogestation. The mother of a patient treated by Dr. Peacock stated that, "two months before her confinement, she was frightened by seeing a child killed, and never recovered from the shock she sustained." (*Mal. of Heart*, p. 37.) In another case "the mother was much out of health, and stated that, when pregnant with the child, she was greatly alarmed by seeing a man who was dying of asthma." (*Op. cit.*, page 57.) In another instance the mother was frightened at the fifth month of pregnancy (page 41); and in still another case, recorded by Dr. Peacock, the mother, four or five months before her confinement, was greatly alarmed by her husband, who was insane, standing over her for two hours with a loaded pistol." (Page 43.)

Occasionally the malformation appears to be due to some vice or taint in the system of one or both parents. In a case quoted in the *Gazette Medicale* for Dec. 28, 1850, from another continental journal, it is stated that "the mother, who had formerly suffered from rickets, gave birth to five children, all of whom died immediately or shortly after birth with symptoms of cyanosis. The father died at the age of thirty-six of phthisis." Dr. Peacock relates a case in which the father was livid, and had the "pigeon-breast" common in the cyanotic. In the history of a patient, which was communicated by Cooper to Farre (Case 163), it is related that "vices of conformation of the heart appeared to have been inherent in the family. Of 12 infants only 4 survived, and more presented signs of heart-disease." Dr. Buchanan relates the history of a child which was the second that had suffered and died in the same family in the same way (Case 40). A patient treated by Mr. Leonard was the sixth child of the family who had died at about the same age with symptoms of cyanosis. Such instances are, however, exceptional. Ordinarily, the cyanotic have not only healthy parents but healthy brothers and sisters.

A patient whose history is given by Dr. William Hunter, was born at the eighth month, but in nearly all other cases the full period of uterine existence was reached.

The opinion was long since expressed by Gintrac that the number affected with cyanosis, to the entire population, varies in different countries. It is probable that the occurrence of the blue disease is not greatly, if at all, influenced by the nationality, but it is certainly dependent to a considerable extent on the condition of society. It is less frequent in a community in comfortable circumstances, and engaged in wholesome and quiet occupations. Pure air and outdoor exercise, plain nutritious diet, freedom from cares and anxieties, in fine, causes which promote the physical well-being, diminish the liability to an ill-formed and cyanotic offspring. And, conversely, impure air, improper and insufficient diet, grief, etc., increase the percentage of

cyanotic cases. Hence it is a rare disease in the rural districts, and comparatively frequent in the cities, especially in a large city like New York, which contains a numerous indigent and care-worn population, living from year to year in the midst of agencies which operate stealthily but certainly to enervate the system and undermine the health.

These remarks are abundantly substantiated by statistics. In New York city, for the six years ending with 1860, there was one death from cyanosis to 436 deaths from all causes; and in Brooklyn the proportion estimated for two years is about the same. On the other hand, in the State of Kentucky, which contains few large cities, and in the death reports of which cyanosis is included in the general term malformation, there was, during a period of five years, one death from malformation to 2469 from all causes. In the State of South Carolina, for three years, there was one death from cyanosis to 5018 from all causes. In the State of Massachusetts, for two years, there was one death from cyanosis to 1136 from all causes, and two-thirds of the cyanotic cases occurred in the counties of Suffolk, Essex, and Worcester, which contain large cities. In London there was one death from cyanosis to 755 from all causes during a period of three years. On the other hand, in England, including the city of London, there was, for the ten years ending with 1857, one death from cyanosis to 1589 from all causes; and in the rural districts of Monmouth and Wales there was only one death from cyanosis to 5578 deaths from all causes during a period of two years.

In 138 cases the records state at what time lividity was first observed. In 97 of these it was within the first week, and generally within a few hours of birth. In the remaining 41 cases it commenced as follows:—

In 3 at 2 weeks.  
 " 1 " 3 "  
 " 2 " 1 month.  
 " 7 from 1 to 2 months.  
 " 5 " 2 " 6 "  
 " 5 " 6 " 12 "  
 " 3 " 1 year to 2 years.  
 " 6 " 2 " " 5 "  
 " 1 " 5 " " 10 "  
 " 6 " 10 " " 20 "  
 " 1 " 20 " " 40 "  
 " 1 over 40 years.

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In these forty-one cases, in which blueness did not occur till after the age of one week, if the patient were less than two years old when it commenced there was frequently no obvious exciting cause, but above this age, with three exceptions, such a cause is known to have been present. It is interesting to observe how trivial the exciting cause frequently is, and equally interesting to note how long patients have enjoyed good health, not having the least lividity, although the anatomical vice to which the final development of cyanosis is due has existed from birth.

Dr. Theophilus Thompson relates in the *Medico-Chir. Trans.*, vol. xxv., the history of a lady, thirty-eight years old, who was well till an attack of Asiatic cholera, after which her health was permanently impaired. Two years before her death she passed through a course of fever, and from this time was cyanotic. In the *Philadelphia Med. Examiner*, June, 1850, Dr. Waters relates a case in which cyanosis began at the age of six years in an attack of measles. In a case published by Mr. Napper, in the *London Med. Gazette*, 1841, the child fell at the age of six months, and from this time had cyanosis. A female, whose history is given by Prof. Tommasini of Bologna, and quoted by Bouillaud, became cyanotic at the age of twenty-five, in consequence of difficult parturition. In the *London Lancet*, 1842, Mr. Stedman relates a case in which cyanosis began at the age of ten weeks in an attack of convulsions. In the *American Jour. of Med. Sciences*, 1847, Dr. John P. Harrison published the history of a baker, twenty years old, in whom cyanosis began five years previously after

## THE WEEK.

THE profession of London have for some time been agitating the question of the retirement of old medical men from public institutions. So strongly does the current of opinion set in favor of this regulation, that many of the older hospital surgeons and physicians have within a year or two resigned. A contemporary holds the following language on the subject:—

"Few men after forty years of work like or can withstand the active competition of their younger brethren. It is unfair to both when such is permitted. There is a period when retirement is a duty, and it is not just that the initiative of its suggestion should rest with those colleagues in office to whom other than disinterested motives may be attributed. We know of more than one instance in which personal reputation has been and is placed in jeopardy, and the interests of public institutions have been and are materially compromised, through the continuance in office for the exercise of active duties of professional men who have reached the age of fourscore. In the surgical profession there is a time when nature, not knowledge, fails; when advice, not action, should satisfy. In other professions it may be different. Judges on the Bench have expounded the accumulated wisdom of years with unfailing memory and unerring inference. Had they to write the same, or perform manipulations requiring energy and nerve, would their manuscripts or labors bear comparison with the efforts of their earlier years? We doubt it. Could octogenarian surgeons by speaking operate, what different results should we be enabled to record! So truly has the impropriety of this adherence to office been felt, so justly acknowledged are the ill effects which have followed its practice, that the board of one of our most celebrated hospitals has passed a resolution that its officers should resign at the age of sixty-five; the first of whom to come under its operation was one of the ablest and most competent, and, we may add, exceptional practitioners in the kingdom. Though in his particular case the institution sustained a grievous loss difficult to as adequately fill, it is far better that one should suffer, and one instance of this kind occur, than that a system of life-perpetuity in our public institutions should be permitted, and past services be set off against present deficiencies."

We take pleasure in recording the fact that a change has taken place in the head of the bureau of Army Medical Inspection. DR. PERLEY, the first Medical Inspector-General, has resigned, and his place is filled by DR. JOSEPH K. BARNES, formerly a surgeon of the U.S. Army, but more recently one of the Medical Inspectors. DR. BARNES is a native of Pennsylvania, and entered the army as assistant-surgeon from that State, June 15, 1840. He was made a full surgeon August 29, 1856. The reasonable anticipations of important results to the service, and additions to the science of military hygiene, through this bureau, have failed of full realization through want of a competent head. Little or no direction was given to the course of inquiry, and no use whatever was made of the accumulating materials. We believe that branch of the army medical service will find in DR. BARNES an executive officer fully capable of developing it in all its details.

GARIBALDI.—Dr. Albanese writes from Caprera that the General's wound has been cicatrized since the 11th ultimo. Garibaldi now rides on horseback, and will, in a couple of months, lay by his crutches and use simply a stick. By the steady use of cold douching, the foot moves more easily, and it is to be hoped that, eventually, the patient will walk without much halting.—*Lancet*.

## Reviews.

REPORT ON THE TREATMENT OF ACUTE AND CHRONIC DIARRHŒA, WITH SUB-NITRATE OF BISMUTH, at Camp Downey, Cal., and Finley Hospital, Washington, D.C. By JOHN B. TRASK, M.D., Acting Assistant-Surgeon, U.S.A. San Francisco, 1863: pp. 20.

DR. TRASK, the author of this pamphlet, was the former editor of the *Pacific Medical and Surgical Journal*. He entered the volunteer medical corps from California, and was subsequently placed in charge of the Finley Hospital, Washington. He conducted this institution with great success; every ward and even bed gave evidence of the most rigid discipline, while a table amply supplied with vegetables proved him well versed in the relations between diet and nutrition.

The object of this pamphlet is to bring to the attention of the profession sub-nitrate of bismuth as a remedy in diarrhœa, whether acute or chronic. Dr T. truly observes:—"Camp Diarrhœa" is one of those unaccountable, perplexing, annoying, and frequently obstinate maladies which all bodies of troops sooner or later suffer. To treat it successfully, and not decimate the strength of the command, often baffles the best directed efforts and skill of the surgeon." Passing over the discussion of the causes and conditions of this disease, we will come at once to the substance of the pamphlet. While in charge of Camp Downey, Cal., a severe form of diarrhœa appeared. The bismuth treatment was resorted to, with the following results:—

"The total number of cases submitted to the treatment of bismuth, combined and alone, at Camp Downey, numbers seventy-eight; the total of all the cases of diarrhœa from the 4th Sept. was ninety-four. The strength of the command during the period of the epidemic was five hundred rank and file. The following are the statistics of the treatment as appears on my sick-report, derived from entry, and return to duty. Between the 4th Sept. and the 22d, nineteen cases took the following for diarrhœa: Bismuth Sub-Nit. gr. xv., Sub-Mur. Hydrarg. gr. x. No other remedy. These cases returned to duty at the end of twenty-four hours. There were eight cases who took the following: Bismuth Sub-Nit. gr. x., Sub-Mur. Hyd. gr. x. The diarrhœa was arrested in thirty-six hours on an average. There was much nausea in some of these cases after this remedy had been taken, and, when it occurred, the patient had not more than three evacuations until twelve or fifteen hours afterwards; the discharges were then free, and usually amounted to four or five in number, and taking place at lengthening intervals. The first two discharges occurring at the end of this period were dark and tar-like; those which took place later were yellowish and slightly green. In four of these eight cases the green color in the feces proceeded from altered blood alone. On the second day a light dose of oil was given, and these men returned to duty. The twenty-seven cases here enumerated had the disease in its moderate form. There were twelve cases in which bismuth alone was given in doses of twenty grains. In all these the diarrhœa was promptly arrested within the day; not one of those men went to the sink after night. Within six hours after the exhibition of the remedy, the abdominal pains and flatulence ceased, and the men obtained sleep without the use of opiates; all these cases required a mild laxative on the following day, which was followed by one full and dark stool, and ordinarily two lighter ones within the twelve hours; they were returned to duty the following day. In fourteen cases with whom the disease was more severe, the following prescription was given: Bismuth Sub-Nit. gr. xxv., Sub-Mur. Hyd. gr. x. In the greater portion of this number there was much nausea following the use of the remedy, and which came on between one and two hours after it was taken. The diarrhœa was soon subdued, and with it the attending pain; this took place commonly within nine hours. In six of these cases the discharges continued until tattoo, but there were none after that hour; there were five others in which no movement of the bowels took place after the lapse of six hours. In four of these cases a laxative was required on the second day, from the action of which from three

to four passages followed; most of these cases returned to duty on the third day, and all of them on the fourth day from the beginning of the treatment.

"In seventeen cases similar in character to the preceding, the same quantity of Bismuth was given, with one-half the quantity, *gr. v. Sub-Mur. Hyd.* There was but one of this number who had any nausea after taking the remedy. The diarrhoea in all of these men was arrested during the day. In eight cases a laxative was required on the second day; all these patients but one returned to duty on the third day.

"In five cases on whom the malady was very severe—in which the discharges occurred each hour, with vomiting and nausea, as well as extreme prostration—the quantity of Bismuth exhibited was forty grains, with *Sub-Mur. Hyd.* grains three, at a single dose; in each the evacuations were promptly arrested, with the subsidence of the gastric disturbance. There were also three other cases in which fifty grains of the remedy as above was given. In all these eight cases there was no movement of the bowels at the expiration of eight hours; all of them required a laxative at the end of twenty-four hours."

It was not until he became the Surgeon-in-charge of the Finley Hospital, Washington, that he had an opportunity of proving the value of the bismuth in the chronic form of diarrhoea. It proved equally as successful as in the acute form. The following is the summary of its use in the chronic diarrhoeas:—

"Where the malady had existed over nine days, I regard it as belonging to the chronic stage, and use it as such. The number of patients on whom it has continued from ten to twelve days, was one hundred and fifteen; of this number seventy-five took Bismuth in doses of sixty grains, each day, at one dose; the longest period of the continuance of the diarrhoea was four days, the shortest period one day. Of the seventy-eight remaining, seven cases took each day eighty grains at one dose; the discharges ceased entirely in all on the fourth day. The remaining seventy-one took the same quantity of Bismuth in forty grain doses twice a day, with an average result of four and one-half days to the cessation of the evacuations from the period at which the remedy was first given. All that remain had the disease from twenty to two hundred and ten days; these foot up seventy-four cases. There were eleven of this number on whom it had existed from ninety-four days to the longest period named. With the exception of the latter, these men were treated with doses of sixty grains daily; a few of them took eighty grains in divided doses for one or two days. The average period of the treatment was five and one-half days, at which time the discharges ceased permanently. There were none of these cases that had less than six movements of the bowels within twenty-four hours, and in many of the cases they were nearly or quite doubled."

We are not altogether satisfied with Dr. Trask's views of the treatment of diarrhoeas, but we cannot doubt that bismuth has been very successful in his hands. The remedy is worthy of trial by army surgeons who are often so much perplexed by these cases.

## Correspondence.

### WARM WATER IN THE TREATMENT OF ACUTE OTITIS.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—In your issue of Aug. 15th there appears an article by Dr. D. B. St. John Roosa, in which the writer recommends warm water as a remedy for the excessive pain which usually accompanies acute otitis. He also suggests that "Dr. V. Trötsch, of Wurzburg, Germany, was the first to recommend this remedy as particularly adapted to quieting pain in the ear."

More than twenty-five years ago, Dr. John Ramsey, now a retired physician, residing in this place, employed warm water freely and almost exclusively in a case of acute otitis, which was caused by an insect lodging in the auditory canal. Since that time he has often made use of

the same remedy with the happiest effects, particularly for the purpose of removing foreign bodies from the auditory passage. His method of operating has generally been to place the patient with his head lying flat upon a stand or table, with the affected ear looking upwards, so as to keep the water for some time in contact with the membrana tympani.

For the relief of that distressing complaint, otalgia, Dr. R. has also frequently employed this remedy, and generally with satisfactory results. I suppose it is of very little consequence who first used warm water in diseases of the ear, but if the discovery is worth publishing at all, let us place the credit where it belongs, and where it *does* belong I am quite unable to say.

I close with a brief description of a case which occurred in my own practice about four weeks ago. A stout, athletic man came to me late in the evening, half crazed with the incessant buzzing of an insect in his ear. I at once pursued the course specified above, injecting warm soap-and-water freely, with the patient's head lying flat upon the table. The buzzing gradually decreased, and soon ceased entirely, but the insect still remained lodged in the canal. I therefore concluded that it would have to be brought away piecemeal by repeated injections of water. The following morning, with the patient in the sitting posture, I injected a large and continuous stream of warm water, with a slight degree of force. In a short time I washed away a winged insect considerably larger than a common house-fly, which had evidently been dead some hours. My patient experienced no further trouble or annoyance. It seems to me that the necessity for *poking* in the ear for the removal of foreign bodies will rarely occur, if the water be faithfully and perseveringly tried.

Yours, etc.,

I. N. DANFORTH, M.D.

GREENFIELD, N. H., Aug. 27, 1866.

### PRIMARY EDUCATION OF MEDICAL MEN.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—I think you do not over-estimate the primary or common-school education of the medical profession. As a contribution to the subject I inclose to you a few medical certificates which I have taken from the files of a public institution of this city. The certificates date back only a month or two. Hundreds more could be sent if necessary.

M.D.

This may certify that ——— has been confined on board of Canal Boat A Nelson laying at Pear 17 East River. It would be better for both mother and child to have her removed immediately.

This man sick under inflammatory rheumatism has spent his last money to Doctor to cure and unsuccessful he has been sick since last 6 weeks. has been in the dispensary nothing can relieve him. . . I deliver him this present certificate.

This Certifies that ——— born in the state of Connecticut lived in this City since last Feb'y. has been an inmate of this institution about one month. She has one hip dislocated and requires surgical treatment which are not at hand at this institution, she is therefore recommended to ———

This is to certify that ——— has been under my physical attention for the last three months suffering severely from a cold which settled on her lungs but as she is not able to pay any more expenses she wishes to be taken where she can have a proper attention hoping to recover once more to health. This certificate is written in favor of ——— and as a true fact I sincerely the same with my own hand.

### FRACTURE OF THE SKULL FROM BLOWS OF THE FIST.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—In the AMERICAN MEDICAL TIMES for Aug. 22, 1863, Dr. Alfred Mercer of Syracuse, N. Y., communicates a case of fracture of the skull by three blows of the fist. He describes the fracture, which was about the temporal region, and asks, "Could the fist have produced such a fracture?" \* \* Can any of your numerous readers, with illustrative cases, throw any light on the subject?"

A somewhat similar case to that reported by Dr. Mercer, occurred six or eight years ago in the city of Buffalo. A

destroyed by cellulitis. It will also be noticed that in four cases the bromine is reported to have failed in arresting the gangrene. In each of these the bromine had been applied, I have reason to believe, much more frequently than is compatible with the establishment of granulation—for bromine is a caustic agent. In one case granulation occurred two days after the abandonment of the bromine, and the use of a weak solution of creasote; in two cases after the use of a solution of the persulphate of iron, and in one case after the use of a cow-dung poultice.

CONSOLIDATED STATEMENT OF CASES OF HOSPITAL GANGRENE,  
TREATED IN LOUISVILLE, NASHVILLE, MURFREESBORO, AND  
NEW ALBANY.

	Whole Number.	Recovered.	Died.	Amputations.	Average Duration of Treatment.	Percentage of Deaths.
					Days. Hours.	
Treated with Bromine in any way - - - - -	152	148	4	0	5 14	2 65-100
Treated with Bromine Pure exclusively - - - - -	27	25	2	0	2 22½	
Treated with Bromine in Solution exclusively - -	86	84	2	0	6 11½	
Treated with Bromine Pure after the Solution failed -	8	8	0	0	12 18	
Treated with Bromine after Nitric Acid failed - - -	23	22	0	1	8 16½	
Treated with Bromine after other Remedies failed -	8	8	0	0	3 4	69 54-100
Treated with Nitric Acid exclusively - - - - -	18	5	8	0	8 14 2-5	
Treated with other Remedies exclusively - - - - -	18	7	5	1	7 18 5-7	
Treated with other Remedies after Bromine had failed - - - - -	4	4	0	0		
						85 47-100

I beg here to call the attention of such of your readers as may be interested in the matter to the fact that almost all the surgeons who have adopted the bromine treatment of hospital gangrene rely now upon the use of the pure undiluted agent, the various solutions having been found less prompt in their effects, and, for the ends in view, less reliable.

LOUISVILLE, KY., Aug. 23, 1868.

## Reports of Societies.

### NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, May 20, 1868.

DR. JAMES ANDERSON, PRESIDENT, IN THE CHAIR.

#### HOSPITAL GANGRENE.

(Concluded.)

DR. POST.—The last speaker has gone so fully into the subject of the history, etiology, and symptomatology of hospital gangrene, that I shall not dwell upon this department of the subject, but merely present to the Academy some observations that I have been able to make during a recent visit of inspection to the cities of Nashville, Louisville, and Murfreesboro. I have scarcely any remarks to make in addition to those made by Dr. Parker, with regard to the constitutional or local symptoms of this disease.

The disease attacked recent wounds, in several instances; in other cases the disease broke out in parts which had been suppurating for a considerable length of time, and when the process of cicatrization was far advanced. In

other cases, or in one case in particular, there was no local lesion that was known to have preceded the gangrene—there was simply a slight vesicle to commence with upon the surface of the skin. One of the most formidable cases occurred in a patient where a seton had been worn for some time in the back.

The disease did not occur in a very large number of cases in any of the hospitals, and did not show any marked tendency to spread; indeed, the cases for the most part seemed to be remarkably sporadic. The disease was not traced in any of the cases to contagion from the application of matter of patients previously suffering from the disease. In one instance, in a hospital in Murfreesboro, there were, I think, nine cases congregated in one part, having been sent from the different hospitals in the neighborhood. That ward was not remarkably well ventilated, neither was its sanitary condition remarkably good; still the disease did not spread from these cases to other patients, although others had suppurating sores in that ward. There were three recent cases that I saw for only three or four days; in them the sloughing process had not been arrested; but there were a number of other cases where even cicatrization was advancing. There were no cases that spread to other patients. It was not found necessary to remove any of these patients to tents. There was nothing remarkable in regard to the character of the disease differing from hospital gangrene as described by authors, and as seen in other places. The disease occurred rather suddenly: a spot would first become gangrenous, and then spread, until a large portion of the skin, cellular tissue, and sometimes the fibrous and muscular tissues were converted into a soft putrid mass, of a highly offensive smell, and of an ashy hue. The disease seemed also to have a tendency to spread beneath the margin of the integument, by a sort of phagedenic ulceration. The muscular tissues resisted the progress of the disease more than the skin and cellular tissue. In some cases the areolar tissue was beautifully dissected out from between the muscles.

According to my observations, and according to the reports of the different surgeons, very much more depended upon the local treatment of the disease than the members would be led to infer after hearing Dr. Parker. Indeed, the local treatment seemed to have played the most important part in arresting the progress of the disease. The remedy used more than any other was one introduced by Dr. Middleton Goldsmith, Assistant Med. Director. I refer to bromine, or some of its preparations. It is principally with reference to the action of bromine as a local application that I have risen to speak. The preparations of bromine that have been used have been either the pure bromine, a dark red liquid with a pungent odor, or more frequently a preparation analogous to Lugol's solution of iodine—160 grains of the bromide of potassium are dissolved in 4 oz. of water, this solution is placed in a bottle, and an ounce of bromine is added, making a solution of the bromuretted bromide of potassium. In some cases there is a simple residuum, owing doubtless to some existing impurity in one or other of the ingredients. It is a reddish-colored fluid, from which the fumes of bromine are given off. The mode of making the application has varied somewhat with different surgeons of the hospitals I have visited, but those who used it with the most care and success used it in the manner which I will indicate. In the first place, after the sloughing process has been fully established, when the tissues involved have become positively putrid, and there is a disposition to form a separation between sound and healthy parts, all the dead portions are carefully detached by means of a scissors, after which the denuded part is thoroughly washed with a syringe and lukewarm water; after this the comp. sol. of bromine is brought in contact with every portion of the sore either by means of a camel's hair brush or a small syringe. If there be sinuses, the fluid is injected into them, and nothing is done with the undermined integument of a gunshot wound through the limb, when

cannot easily be used, a small strip of old linen is attached to the eye of a probe after having been dipped in the solution, and drawn through the wound. This linen is then left in until the next day's dressing.

The first effect of the bromine was very remarkable in removing all offensive odor—the fetor would be removed in a very remarkable manner, so much so that you had to apply your nose close to the surface of the sore to detect any odor whatever. The next effect was to coagulate the albumen and leave the part as if varnished—there was no appearance of putrefaction whatever. The patients complained of severe pain at the time of the application, but I have reason to believe that such complaints were much exaggerated. The dressing applied after the application of the bromine varied in different cases. In most cases the surgeons were in the habit of applying yeast poultices, and they also used as a substitute for this a fermenting substance made by adding carbonate of soda and tartaric acid to a poultice. I suggested to them the propriety of substituting the bicarb. potash for the cream of tartar, on the ground that the gas would in that event be more slowly evolved. In other cases the liq. sod. chlorinata was used; in fact, numerous applications of the sort were made according to the peculiar notion of the Surgeon-in-charge.

I found that there were some of the surgeons in Nashville who were sceptical with regard to the advantages of bromine as a local application, they maintaining that they had better success from the use of nitric acid; but I observed that some of these gentlemen had applied it in rather a careless way, while they had used the nitric acid more thoroughly and with more care. There was one gentleman particularly who seemed very sceptical. I informed him that he had not applied it as carefully and as thoroughly as the other surgeons, and therefore he erred in a good effect. I also suggested that if he would use it in another way he would have like success. Since I have returned to the city I have received a letter from that gentleman, and he tells me that he has taken my advice with reference to its mode of application, and has been abundantly successful.

With regard to the constitutional treatment, I believe there can be very little discrepancy of opinion concerning the use of tonics, stimulants, and good food, in this disease.

I will observe that those gentlemen who have used bromine so largely look upon it as an antidote to the poison, whatever it is, of hospital gangrene, and consequently they do not advocate the free circulation of fresh air as they otherwise would.

I observed that bromine was used for disinfecting the atmosphere of the ward, by pouring it into saucers, or by carrying an open-mouthed bottle containing the liquor through the ward. This was done five minutes at a time three times a day, and the fact that the gangrene did not spread where bromine was used, seems strong proof of the existence of the property claimed for it.

The frequency of its application varied with different surgeons from once to twice or three times in twenty-four hours. When the surface of the granulations became visible, the solution was weakened. In the cases that I had the opportunity of seeing, the disease was arrested throughout the great body of the sore within two or three days. In the case of the seton in the back, the disease was not arrested ten days after the application, but I have afterwards understood from Dr. Goldsmith that the disease was finally entirely checked.

I have come to the conclusion, from what I have seen, that the application in the treatment of hospital gangrene is very highly conducive to the welfare of the patient, and I think that it will prevent the spread of the disease.

There is one important fact connected with bromine which I think well worth relating. I saw at Louisville a case of hospital gangrene of the leg, where, in the course of the disease, the posterior tibial artery became involved, and hæmorrhage occurred. The interesting feature in this was that the Surgeon-in-charge tied the artery at the bot-

tom of the sloughing surface, and applied the bromine immediately over it. I saw that case a little less than a week after the application occurred, and the case was doing remarkably well. The ligature had separated the day before I saw it, and at that time the sore was in a state of healthy granulation. I am unable to say whether any further hæmorrhage occurred. Dr. Goldsmith informed me that the case was the fourth one where such a result was obtained from the application of bromine. This is a very remarkable fact, because the general result of tying arteries in the midst of sloughing parts is that hæmorrhage takes place very soon again. If bromine has the power of arresting this sloughing process, it is a fact well worthy of our investigation.

Dr. Post, in conclusion, alluded to the good effects claimed by the surgeons for bromine in cases of diphtheria and erysipelas. In the "Park Barracks," in Louisville, erysipelas broke out with great severity, and the moment that the bromine treatment was introduced the disease ceased to spread. The remedy was used both in fumigation and as a local application. The surgeons were in the habit of moistening lint with the compound solution of bromine and applying it directly to the part, and covering the whole with oiled-silk. Dr. Post saw a number of cases treated in that way where improvement had taken place in a very short time. He was informed by those gentlemen who had charge of the erysipelatos hospital, that in almost all cases, in from twelve to twenty-four hours after the commencement of the treatment, the erysipelas began to subside. It scarcely in any case continued to spread beyond two or three days; generally its spread was checked within from twelve to twenty-four hours.

Dr. DETMOLD alluded to the investigations of a distinguished German writer, who maintained that the deposit on the surface of hospital gangrene consisted of a multiplied cell growth, which, immediately on being formed, underwent destructive assimilation. He endorsed the treatment by the local application of nitric acid, and also enumerated several remedies which had proved of great efficiency in the treatment of the disease during the Italian campaign, as, for instance, the saturated solution of chloride of potash, cold tar, and tr. iodine.

Dr. EDWARD JARVIS, of Mass., by invitation, made a few remarks concerning the action of bromine as observed by him while on a tour of inspection through some of the cities visited by Dr. Post. He corroborated in the main the statements made by Dr. Post. In reference to the case spoken of by Dr. Post, where the tibial artery was ligated in the midst of sloughing tissue, he stated that he had seen the case on the 25th day, perfectly recovered. Dr. Jarvis had learned from Dr. Goldsmith that bromine affected only the dead tissue in cases of gangrene, and when applied to the skin the cuticle only was destroyed.

Dr. PERCY stated that he had been in the habit of using the saturated solution of bromine for diphtheria, and with very satisfactory results. He had also used it with equally good effect in syphilitic ulceration of the throat and in tonsillitis. In conclusion, he alluded to the fact that Dr. Metcalf had for some time been in the habit of using a combination of bromine and iodine in throat affections with great success.

The Academy then adjourned.

## NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, March 26, 1868.

DR. H. B. SANDS, VICE-PRESIDENT, IN THE CHAIR.

REPORT OF A REMARKABLE OBSTETRICAL CASE; VERSION; METRO-PERITONITIS; GANGRENE OF THE UTERUS; AUTOPSY.

DR. F. D. LENT presented the following report:—

Mrs. E., aged 35. The husband of this patient applied to me on Monday, Feb. 23, 1863, in a state of great excitement, requesting my immediate attendance on his wife,



who was in a dying condition. Upon reaching the house, which was near by, I learned the following particulars:—That Mrs. E., a person of strong constitution and previous good health, had been taken in labor with her fifth child on Friday evening, Feb. 20th. That is to say, the membranes ruptured at that time without any previous pain. On Saturday morning, Feb. 21st, she summoned a midwife, who found a hand presenting in the vagina, but, up to this time, no labor-pains. She continued in this state until about four o'clock p.m., when the midwife gave some drug, after which pains of a moderate character set in. Soon after this the patient, suspecting something wrong, sent her husband in haste for the nearest physician. He arrived at about six o'clock, and immediately proceeded to introduce his hand into the uterus. The patient had no anæsthetic, and states that he caused her intense pain, and that she felt his hand "high up in her stomach." After manipulating for some time, another physician whom he had sent for arrived, and, having administered chloroform to partial anæsthesia, proceeded to operate. After some attempts at version he desisted. These attempts were renewed at long intervals, until between twelve and one o'clock on Sunday morning, six hours and a half from the commencement of the operative procedures, when the child was turned and delivered. At about ten o'clock, however, while manipulating within the uterus, he succeeded in detaching and bringing away the placenta. The patient was never free from severe pain, or from the manifestations of it, from the commencement of the operation to the end, although anæsthetics and anodynes were administered to a certain extent.\* On Sunday, Feb. 22d, the patient was in a suffering condition; her abdomen was swollen and tender; she was feeble and restless, and her lochia suppressed. On Sunday evening the physician in attendance gave her some anodyne, but she obtained little or no relief, and vomited occasionally. On Monday morning, Feb. 23d, her suffering had increased, but her medical attendant stated that she was doing better than could be expected, and left some anodyne draught to be given at certain intervals. It was about two hours after this that I was called in, and urged by the patient and her friends (having been for some years the family physician) to take charge of her. Having sent a notification of the facts to the previous attendant, I did so. Present condition, Feb. 23d.—Patient is lying on her back, with her knees drawn up towards the abdomen, and refusing the least change of position, the nurse having repeatedly attempted this in order to administer an enema. The tympanitis is very considerable, and the tenderness on pressure also—especially so over the pubes and right ovarian regions; countenance anxious; pulse frequent, feeble, and intermitting; skin dry; tongue inclined to dryness; thirst considerable; lochia suppressed: is vomiting profusely a yellowish fluid, which is ejected with but little effort. Took castor-oil yesterday, but has had no operation. Patient is crying out piteously for some relief from the abdominal pain. *Diagnosis*.—Metro-peritonitis. *Prognosis*.—very unfavorable. Immediately administered a full dose of morphia by hypodermic injection, which soon induced quiet and a tendency to sleep; applied a large blister over the abdomen; and ordered an enema *per rectum* of morph., gr. ss., q. 3 h.; also nourishment in the shape of concentrated beef-tea, and a little egg-nogg. Feb. 24th.—Feels much better; vomiting has been arrested; has dozed a little; has less pain; pulse not much changed. Repeat hypodermic injection. To take pil. morph. sulph., gr.  $\frac{1}{2}$ , q. 3 h. Feb. 26th.—Seems rather better. It has been necessary to give the pills every two hours. She sleeps but little; the tympanitis has increased; pulse about 130, and less intermittent. Bowels have moved twice; vomited a fluid to-day which she described as having a decidedly stercoraceous smell and taste; no nausea since. Still lies in the same position. March 8d.—There has been

no marked change in the condition of the patient since last date. The tympanitis has gradually increased; bowels have moved several times spontaneously; nothing remarkable in the appearance of the evacuations; she has passed water at all times without difficulty; pulse has varied from 130 to 140, feeble, has lost its intermitting character. The tenderness on pressure is now mostly confined to the lower part of the abdomen. It has been occasionally found necessary to increase the doses of morphia from gr.  $\frac{1}{4}$  to gr.  $\frac{1}{2}$ . Has now poultices sprinkled with oil of turpentine over the abdomen, the blistered surface having healed. March 8th.—Has been rather failing; pulse 126; tympanitis the same; has had diarrhoea for some days, and has required frequent doses of tannic acid with the morphia. Takes her nourishment with some relish; sleeps but little. March 10th.—At three o'clock p.m. yesterday there was a gush of yellowish fluid *per vaginam* which had a putrid odor. This discharge is still considerable, and has rather a feculent odor. March 13th.—About the same; requires her anodynes only once in four to six hours. Bowels still open. The nurse states that for the last twenty-four hours the urine has been muddy and dark. It has the appearance of urine and feculent matter mingled, and, under the microscope, shows an abundance of large exudation corpuscles and large crystals of the triple phosphates. It is probably a mixture of the contents of the bladder and the vagina, the vaginal discharge still continuing abundant. Complains now of pain along the descending colon, extending to the umbilicus and spine. March 14th.—Sinking gradually. March 15th.—This morning her friends thought her better, but in the afternoon a bloody discharge in considerable quantity took place from the vagina, and she rapidly sank and died.

DEAR DOCTOR:—At your request we made a post-mortem examination of the body of Mrs. E., of which the following is a history written from notes made at the time:—

*Autopsy, twenty-one hours after death, weather very cold.*—Rigor mortis well marked. Body moderately emaciated. Abdomen markedly tympanitic. Percussion gave "dull resonance" (a muffled sound) over every region except the hypogastric, which was perfectly flat. On making the usual incision, it was found impossible to avoid wounding the intestines except by the greatest care, owing to the intimate adhesions of the intestines to one another, and to the abdominal walls. All the contents of the abdominal cavity, below the liver and stomach, were bound together in one solid mass; the intestines so firmly united that, in separating them, the peritoneal coat was invariably stripped off. The intestines presented a deep lead color, merging into a purplish brown, and all their coats were softened; so much so, that, in holding them out of the way by hooks, they would tear like brown paper. The muscular and mucous coats were nearly of their natural color, being, if anything, a little pale. Large quantities of light colored fæces were found throughout their length. About eight ounces of clots and a pint of serum were found in the hypogastrium, shut in by adhesions; another collection in right iliac fossa of about half the quantity. Small collections of fluid, looking like pus, found in various places. As usual in these cases, when submitted to the microscope, it proved to be fibrinous (granules, granular cells, spherical and elongated, and fibres). These same cells, spherical, constituted the bulk of the deposit in the urine, as you have mentioned in the history of the case. The uterus was so softened and bound down by adhesions, that it was with some difficulty discovered. When exposed, it appeared five or six times its normal size; its anterior surface of the same dark, gangrenous hue as the intestines. On its left border, anteriorly, was seen a ragged opening of about one inch and a half, involving also the vagina to the distance of one inch, making an opening of at least two and a half inches. The whole mass was removed and preserved in a cold place for further use. The anterior wall is gangrenous throughout, and much thinned; the whole internal surface

\* These facts were partly ascertained by careful inquiry from the patient, nurse, and friends, and partly from the physicians.

is gangrenous; but the posterior wall appears otherwise unaffected, its peritoneal surface being intact. No incision was made into its substance. Other abdominal organs healthy.

P. C. BARKER, M.D.,  
WILLIAM YOUNG, M.D.

COLD SPRING, March 17, 1863.

DR. CLARK.—There are two or three omissions in the report, which it would be desirable to have supplied before we could be quite sure as regards the nature of the opening. It is not stated, for instance, whether the opening was round or linear. Again, in regard to the clots, nothing is said of their appearance, in order to enable us to form a judgment as to their age.

DR. YOUNG, of Cold Spring, by invitation, stated that the opening was linear, and that the clots were of a very pale yellow color. He also remarked, in answer to a question from Dr. Clark, that the specimen was fetid at the time it was removed from the body.

DR. CLARK.—There is no way of accounting for that rupture, except by assuming one of two suppositions—either it was an actual laceration at the time of delivery, or it was the result of a slough produced by the pressure of the child against the bones of the pelvis. The position of sloughs from this latter cause is more commonly anterior than lateral. In this case the point was midway between, but it is certainly not improbable that a slough might not have occurred in that situation. It would strike me, therefore, inasmuch as the symptoms of peritonitis occurred very soon after delivery, that there was a fair chance that the rupture might have occurred previous to the peritonitis, and consequently previous to the time that the slough would have been completed to produce a perforation.

DR. FINNELL remarked, that the uterus presented to him the appearance of one that had been ruptured for some considerable time previous to death.

DR. CLARK stated that another question came up in reference to the supposition that simple rupture was produced by manipulation during delivery, which was perhaps not easy to solve, viz. the occurrence of a slough anterior to the rupture. A simple rupture of the uterus was not usually attended by gangrene, any more than any similar wound in other parts of the body. Another feature in this case was interesting in regard to the treatment in the case, as it was evident to him that the peritonitis was substantially cured, and that such a result was brought about by the free use of opium.

The Society then adjourned.

## American Medical Times.

SATURDAY, SEPTEMBER 12, 1863.

### THE FREEDMEN OF THE SOUTH.

Among the grave social and political questions growing out of the present war, one is especially pressing itself forward for immediate solution. It is the present and future condition of the Freedmen of the South. A nation has, indeed, been born in a day. And it is a nation of infants, whose intellectual, social, religious, and even physical faculties are in an undeveloped condition, or even in a nascent state, without proper direction. History affords no more interesting example of the sudden deliverance of an oppressed and imbruted race from the hands of the oppressor. And this act has been accomplished without a solitary preparatory measure. Fresh from the fields of the taskmaster, untutored except in the vices of the most savage and debased life,

accustomed to be the recipients of every imposition which the passions, prejudices, or selfishness of man can inflict, the Freedmen of the South lie helpless at the feet of the Government and people of the United States, mutely imploring their succor. What shall be the future social and civil condition of this people is a problem which can be solved with the utmost certainty, and the responsibility of its proper determination rests with the Government.

And it is gratifying to know that our Government, notwithstanding the pressure of the grave and important duties of state, is mindful of the wants of this humble class of persons, and has taken initiatory steps towards the practical establishment of their social and civil condition in their new relations. A Commission has been appointed, composed of eminent philanthropists, to inquire into the condition of the colored population emancipated by the President's proclamation and by acts of Congress, and to report what measures are necessary to place them in a condition of self-support and self-defence, with the least disturbance of the great industrial interests of the country. The proper basis of this inquiry is the vital statistics of the African race and the mulattoes, as well in the Northern and Middle as in the Southern States. In pursuit of this inquiry the Commission have issued the following series of questions, which are particularly directed to the medical profession:—

1. What is the number of the colored population of your town?
2. About how many pure blacks?
3. About how many mulattoes?
4. Does the colored population, if not recruited by immigration, increase or decrease?
5. Do mulattoes seem to you to have as much vital force to resist disease and destructive agencies as pure blacks, and as whites; and do they usually live as long?
6. To what diseases do mulattoes seem peculiarly liable?
7. Do mulatto families usually have as many children as white families?
8. Can you give instances within your own knowledge, of the number of children in one family born of, and reared to maturity by, mulatto parents?
9. Are the colored people generally industrious and self-supporting, or not?
10. How is it in the second generation with regard to the number and health of offspring?
11. Through how many generations has any family of mulattoes been known to persist?
12. Do the mulattoes seek public charity in greater or less proportion than whites?
13. Do you consider them, upon the whole, as valuable members of the community, or not?

It is surprising how little attention the vital statistics of the colored people have received in this or any other country. Although they enter largely into the population of many nations, few observations have been made upon their peculiarities, either social or physical. We know little of the effects of expatriation upon the African; of the influence of particular climates; of his hereditary tendencies to disease. We know as little definitely of the mulatto; of the influence of amalgamation in developing or deteriorating the different races; whether the mixed races are as fertile and as long lived as the parent stock untainted. These and similar questions, if settled by indisputable facts, would now be of infinite value in determining the proper direction to be given to the efforts to elevate the freedmen. The failure to collect the vital statistics of the negro reflects the more severely upon the American statistician, because of the abundant facilities which he has had for this special study.

Unfortunately, in this country, too little attention has been given to vital statistics in general to render the study

of the peculiarities of any particular class of persons a direct and simple task. But four or five States have attempted to carry out a system of registration, and, with two or almost three exceptions, these efforts have proved of little real advantage in determining the social or physical condition of the people. The decennial census brings together a large mass of ill-digested facts, which have too little precision, and are too general for our present purpose. There are many observations widely scattered, which, collected and properly collated, would throw much light on many of the questions above proposed. But in the absence of such collection, or of full vaccinate registration reports of the different States, the Commission must rely upon the efforts of individuals interested in this subject. To the medical profession they make the appeal more directly, because this department of research belongs peculiarly to our province. It is to be hoped that medical men so situated as to give correct replies to the several questions above proposed, will hasten to make full returns to the Secretary of the Commission, Dr. S. G. Howe, of this city.

### THE WEEK.

A REPORT has recently been presented to the French Academy of Medicine, on Vivisections, of which the following are the conclusions:—

"1. Vivisections are indispensable to physiology, and operations on living animals are necessary for learning the manoeuvres of operative medicine in the veterinary art. 2. They should be undertaken with reserve, and the greatest care should be taken not to give them a character of apparent cruelty. 3. The experimenter should always have in view a real progress in science. 4. Students should not perform experiments except in the great centres of study, under the direction of the professors. 5. Every means at the disposal of science for the diminution of pain should be put into requisition by the experimenter."

The medical press of France and England oppose the practice of vivisections with strong and well considered arguments. A Paris journal says:—

"Magendie, alas! performed experiments in public, and sadly too often at the College de France. I remember once, amongst other instances, the case of a poor dog the roots of whose spinal nerves he was about to expose. Twice did the dog, all bloody and mutilated, escape from his implacable knife; and twice did I see him put his fore legs around Magendie's neck and lick his face. I confess—laugh, Messieurs les Vivisecteurs, if you please—that I could not bear the sight. And again, alas! M. Cl. Bernard performs vivisections in public in his course of physiology. It is, indeed, true that Ph. Bérard, professor of physiology, never performed a single vivisection in his lectures, which were brilliant, elegant, and animated. But Bérard was an example of a singular psychological phenomenon. Towards the close of his life, so painful to him was the sight of blood and the exhibition of pain, that he gave up the practice of surgery, and would never allow his students to witness a vivisection. But Bérard was attacked by cerebral hæmorrhage, and the whole tone of his character was thereby afterwards changed. The benevolent man became aggressive; the tolerant man, irritable; the hesitating and doubtful man, resolute and positive. Moreover, he became an experimenter, and passed whole days in practising vivisections, taking pleasure in the cries, the blood, and the tortures of poor animals. Let us use, but not abuse, the practice."

THE ACADEMY OF MEDICINE, after the usual recess of two months, will resume its meetings on Wednesday evening

next, the 16th inst. From the ability and reputation of the gentlemen whose names have already been announced in connexion with the varied and interesting list of papers contained in the circular published in the *MEDICAL TIMES* in July last, the profession may justly anticipate a profitable winter session. We hope the discussions will be more thorough than heretofore, as ample opportunity is given for preparation before each paper is read.

AMONG the recent changes in the Medical Department of the Army, we notice that Medical Inspector JOHN M. CUYLER, U.S.A., has been placed in charge of the office of the Medical Inspector-General. DR. CUYLER was formerly a Surgeon in the Army, and for a considerable period Medical Director of the Department of Eastern Virginia. He is a most capable and efficient officer, who has won the respect, esteem, and confidence of every one with whom he has had official relations. The management of the Bureau of Sanitary Inspection could not be intrusted to more worthy hands.

### Reviews.

THE HISTORY, PREPARATION, AND THERAPEUTICAL USES OF THE CITRO-AMMONIACAL PYROPHOSPHATE OF IRON, NAMED IN BRIEF PYROPHOSPHATE OF IRON. BY E. N. CHAPMAN, A.M., M.D., Professor of Therapeutics and Materia Medica, Professor of Clinical Obstetrics, and Physician in the Long Island College Hospital. (Reprinted from the Boston Medical and Surgical Journal.) Pp. 12.

IN this pamphlet PROF. CHAPMAN gives us an interesting sketch of an inquiry into the chemical and therapeutical properties of pyrophosphate of iron. The preparation which he employed was obtained as a gelatinous precipitate in the reaction between the pyrophosphate of soda and the tersulphate of iron in solution. A given proportion of citric acid in solution is neutralized by liquor ammoniac, as shown by test-paper, when the pyrophosphate is added, and the liquid boiled until the salt is dissolved, which gives the citro-ammoniacal pyrophosphate of iron in solution; from which we may obtain the solid salt by evaporating to a thick consistency, and then spreading the product on large plates of glass. In his opinion the citro-ammoniacal pyrophosphate of iron affords certain marked advantages over the preparations of iron hitherto in use. Its tastelessness, in solution with sugar, and elegant appearance, in our day, when the nauseous doses of the older practitioners will not be tolerated, are important items in the case of children, or adults even, when the employment of a remedy is demanded for a period of time. He notices a marked peculiarity in the pyrophosphate of iron to be the fact that it will scarcely ever in any case disagree, and very frequently patients who cannot tolerate the ordinary forms of iron will bear this well, and receive great benefit from its use. Like the others, it may fail to add to the blood a richer pabulum, from some fault in the vital processes of nutrition; yet, unlike these, it will not aggravate the disorder for the relief of which it was given.

Another and more important property of this preparation is the pyrophosphoric acid which furnishes the phosphorus to the blood. Phosphorus is now known to be a constituent of the nervous centres, and hence it becomes an important remedy in certain diseases. Prof. C. says:—

"In many conditions occurring in disease there might be a lack of this constituent, in a due proportion; precisely as there is of iron in anemic states of the blood, when our only resource would be to present it in some assimilable form to the system, as there are no substitutes for the elementary bodies. In the case of phosphorus, here has always lain the difficulty; under-

going a slow oxidation or combustion at ordinary temperatures, even when floating on water, its substance would be burnt in the stomach, and a small particle adhering to the mucous surface would occasion irritation or inflammation. It could not be absorbed as phosphorus, and could only be remedial by the phosphorus and phosphoric acids that are formed. These would undoubtedly combine in the stomach with earthy or alkaline bases, and be reduced to the state of the phosphates existing in the food. These, we know, suffer but little change in the blood, being found unchanged in all the solids and fluids, but particularly in the bones. From them, however, in normal, healthy nutrition, the phosphoric acid in the nerve-centres must be derived. Should there be a great depression of vital power, the acid is not liberated from its combination, in the same manner as we know the iron is not, from the materials for digestion. The iron set free by assimilation in the blood is appropriated by the hæmatin; the phosphorus by the brain-fat. In hydræmia we give the iron in an easily assimilated form—one that does not tax the vital powers in separating it from a chemical combination; and straightway the blood begins to regain its color, and strength and vigor are infused into every organ. When a certain stage of recuperation has been attained, as shown by a more florid blood and a stronger pulse, the iron will be readily appropriated from the food, which, normally, is the source whence it is always obtained. The fault, originally, lay not in the absence of iron in the substances presented to the blood, but in an imperfect elaborating power, which failed to assimilate it. In like manner, I think, phosphoric acid may, from the same defect, not be separated from its compounds, and thus the ganglionic nervous centres be wanting in their normal stimulus. Hence would arise many nervous and neuralgic diseases, and nervous complications in many forms of debility. It is necessary for us to pass the phosphoric acid into the blood. This we can only do by giving it in a saline state, with a base that would be assimilated, and thus set it free. This is accomplished by the iron, which we know, in ordinary medicinal doses, is used up in the blood; in other words, is appropriated by the hæmatin, and cannot be detected by any tests. It is a natural constituent in the red globules, and, consequently, not being foreign to the body, behaves precisely as any of the other elementary principles that form its structure. Strictly speaking, it is a food, and must be supplied as much as starch, sugar, oils, and flesh."

The clinical facts which Prof. Chapman records are embraced in the following extracts from the concluding pages of this interesting paper:—

"Whenever the blood becomes thin and watery, there are, almost invariably, troublesome attendant symptoms, seriously retarding the restoration of the patient to health. In all, there will be a lack of nerve-power, from the hydræmic state of the circulation. Hence, could we temporarily augment the stimulating properties of the blood, whilst we are administering the iron, we should prepare the way and present the conditions required for its assimilation, which otherwise might be impossible. Experience has taught most physicians this practical fact, and the indications have usually been fulfilled by the simultaneous use of wine and iron. We have found the pyrophosphate singularly appropriate under these circumstances, and as superior as a natural excitant must ever be over any substitute we may devise. Persons who have been over-worked by mental application and prostrated by disquietude and care, or persons who have a shattered nerve-power from some constant source of bodily suffering, have a thousand anomalous symptoms dependent on an imperfectly generated and distributed nerve-power; such as wakefulness, trembling, spasmodic movements, palpitations, etc. For this class of symptoms, the pyrophosphate of iron often affords relief in two or three days; and thus prepares the way for the ultimate cure that may be expected from the martial salts. Many times patients have expressed wonder at the calming and tranquillizing effects of the medicine; not only in mere functional aberrations and irregularities, but also in cases where actual disease existed in the nerve-centres. In both instances the stimulation is immediate and transient, and can be of no avail, excepting by removing irregular nervous distribution; whilst the iron is appropriated more readily by the organic forces now freed from a great source of disorder.

"In palpitation of the heart in anæmic subjects, I have seen many instances of the power of this remedy in removing this symptom long before the blood was restored to its normal con-

dition. But palpitation, when not due to impoverished blood entirely, may be, oftentimes, equally amenable to this remedy.

"For all the varied and anomalous symptoms of hysterical patients, which are usually some phase of irregular distribution of the nervous influence, the pyrophosphate acts with singular efficiency, diffusing and equalizing the nerve-power, and thus secondarily restoring a more active capillary circulation and a more healthful play of all the functions. Cases illustrative of this point are unnecessary in the milder forms of nervous disease, since the claims of our remedy are sufficiently vindicated in the severer ones hitherto mentioned.

"The pyrophosphate of iron has another property scarcely to be anticipated; and one we should never discover except by actual observation. All of the common preparations of iron are apt to oppress the stomach, coat the tongue, and destroy the appetite; especially when the patient is much debilitated. Many, from a delicate, sensitive organization, cannot, under any circumstances, take iron with profit, it being, in their language, too heating. The pyrophosphate is friendly to the stomach, will never cause any irritation of the gastric surfaces, and, to our knowledge, has never disagreed with any patient, however incompatible the other forms may have been. Besides, it appears to possess a tonic power, and will restore the appetite and digestion after the failure of bitters, quinine, wine, etc., often in extreme cases of anæmia, amenorrhœa, and chlorosis, as we have witnessed in many instances in our obstetric clinique. It seemed to afford just the grade of stimulus required by the stomach; and the improvement thus initiated continued without interruption, under this single remedy, to the complete cure of the patients. This acceptability, friendliness, corrigent and roborant action of this form of iron on the digestive organs, is a valuable peculiarity which renders it, in many persons and in many states of disease, superior to all others, and perhaps to any drug whatsoever. Besides, its tastelessness, when dissolved in syrup, is a great recommendation in this age of sugar, when patients desire to die sweetly, and will not endure anything nauseous or unpleasant, though death be knocking at the door."

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF SOUTHERN CENTRAL NEW YORK, at the 12th, 13th, 14th, and 15th Annual Meetings, held in 1858, '59, '60, and 1861. Binghamton: 1863. Pp. 79.

THIS Society has been one of the most active and useful medical organizations in this State. It embraces several of the southern tier of counties, and is purely scientific in its character. Its annual meetings are generally well attended, and the sessions are rendered interesting and instructive by the free interchange of opinion and the reading and discussion of papers. The papers in this pamphlet embrace those which have accumulated during four years, and consist principally of details of important cases occurring in the practice of individual members. We have space only to give the following contents:—Essay, "What are the advantages of this Association?" by H. S. West, M.D.; Cases of Cerebro-Spinal Meningitis, by C. M. Kingman, M.D.; Statistical Report on Obstetrics, by G. W. Bradford, M.D.; Amaurosis, as the result of an effusion of blood upon the Retina, by J. G. Orton, M.D.; Cases of Convulsions, by L. H. Allen, M.D.; A Unique Case, by J. C. Tappan, M.D.; Case of Caries of the Bones of the Ankle-Joint, by A. Baker, M.D.; Case of Puerperal Fever, by Geo. P. Cady, M.D.; Ovarian Disease, successful treatment by operation, by Silas West, M.D.; Radical Cure of Hernia, by E. G. Crafts, M.D.; Cerebro-Spinal Meningitis, by C. Green, M.D.; Lithotomy in the Female, by Daniel Holmes, M.D.; Extracts of Letter from H. S. West, M.D., of Sivas, Syria, Operations for Lithotomy and Strangulated Hernia; Case of Cerebro-Spinal Meningitis, by S. H. French, M.D.; Operation for Strangulated Hernia, by Fredk Hyde, M.D.; Report on Obstetrics, by H. S. Clubbuck, M.D.; Case of Compound Comminuted Fracture of the Ankle Joint, by H. N. Eastman, M.D.; Ovarian Tumors, by P. B. Brooks, M.D.; Case of Encephaloid Disease of the Hip-Joint, by Daniel Holmes, M.D.; Cases of Encysted Tumors, by Nelson Nivison, M.D.; Medical and Surgical Statistics, registered by J. G. Orton, M.D., for 1860 and 1861.

## Correspondence.

### REMARKS ON AMPUTATIONS AND RESECTIONS IN GUNSHOT FRACTURES.

[In a Letter to Prof. March.]

By A. H. HOFF, M.D.,

SURGEON-IN-CHARGE OF THE STEAMER D. A. JANEWAY.

THE subject of resection and exsection is still receiving especial attention, and the more I see, the less favorably I am inclined towards them. The dangling arms, and necessary secondary amputations, are quite too numerous, and the results too unfortunate to recommend them. This may be, in a measure, the fault of the operators. Yet, I think there are sufficient reasons, aside from this, to condemn them. I have no doubt that there are suitable cases when operations of this kind would be preferable to amputations; but I am quite satisfied, so far as gunshot wounds are concerned, that but little success will attend them. I have had numbers of cases where these operations have been performed placed in my charge for transportation, and have had opportunities to compare results, and have always found those cases where there had been no surgical interference, and the simple treatment of an ordinary compound comminuted fracture had been adopted, much the most successful. The splintered bone is not necessarily denuded of its periosteum, and those portions that are will be disposed of; but at the same time, the repairing process will have commenced, and that peculiar *enveloping* process, welding together fragments, will go on *pari passu* with the destructive, and a well sustained system will soon demonstrate that nature is overcoming the evil. The dead substances are rejected, and new bone has cemented the separated portions, consolidating the shaft, and leaving, to our surprise, a very useful and partially movable joint, or in the continuity an almost perfect limb. Out of some forty cases of compound comminuted fractures of the thigh that I have received on board the boat, the majority of the cases totally unsupported, which were at once properly transported and transferred to the General Hospital in charge of Prof. Hodgen of St. Louis, nearly all recovered, with useful limbs, and the amputations and resections in almost every instance proved fatal; and the resections that did recover were much more tedious and productive of greater deformity. Fond as I am of operating, and much satisfaction as there is in a successful result, it will ill compare with the success in those cases, where studying closely the reparative powers of nature, with the proper applications to best assist, you save mutilation, demonstrating the value of surgery, instead of its destructiveness. I will inclose some drawings of wounds penetrating the shoulder-joint, with the means made use of in fracture for their support. The same apparatus I make use of in fracture of the arm, and find it is the most comfortable one, even in exsection of the elbow-joint. It supports from the neck and shoulder, differing from certain others by supporting instead of extending. It can be applied easily, and be made from a crotched stick; and the immediate support thus obtained is of great importance as to result, and a great comfort to the wounded man, who, instead of being obliged to walk with the broken fragments grating against each other and lacerating the tissue until, fainting from agony, he becomes exhausted and falls to the ground, to be rudely dragged on a stretcher or lifted into a rough jolting wagon, thus destroying all chances, I might almost say of life, is enabled to walk with comfort, saving that terrible inflammatory action which with its results would so much increase the severity of the case. "*A good stout jack-knife and a little ingenuity are all that are required.*" Excuse this little burst, but it brings up a subject of vast importance which is shamefully neglected, viz. the proper support of fractures. The support of a fracture on the field is an unheard-of thing, but an amputation an everyday occurrence. It is easier to cut

it off than support it; the operation shows skill, nerve, etc. etc., but to support a limb and try to save it savors too much of the "afraid to operate." If support has to be followed by an amputation, the amount of suffering saved by it would add to the chances of recovery. Experience shows amputation of thighs to be very unfortunate, and proper support on the other hand exceedingly successful. Neglect in this particular seems strange, as the greatest care has always been recommended in reference to moving persons with fracture, more particularly of the lower extremity. In the excitement of battle many things are neglected, groans are unheeded even by the surgeon. From my experience there is no necessity for this neglect, but it seems that, with the exception of those cases requiring operations, all are neglected or reserved for some future time. From this neglect the future is a most critical one for the sufferer. In reference to the best method of amputation, I would say that I have noticed that you always made flaps, and I take it for granted that you prefer them. I have changed my mind, however, after making some forty amputations, and very much prefer the circular. It makes an easier stump to dress, and as most of these men have to be transported soon after the operation, a much more comfortable one to handle. The surface exposed is not so great, and a more dependent opening can be maintained. The suppuration is less, and the patient not so likely to suffer from pyæmia. My circular operations have done much better than the flap, and have made better stumps.

U.S. HOSPITAL STEAMER D. A. JANEWAY,  
NEAR VICKSBURG, February 18, 1863.

## Army Medical Intelligence.

### ORDERS, CHANGES, &c.

During his absence, and until further orders, Surgeon-General Hammond is relieved from the charge of the Bureau of the Surgeon-General at Washington, and Surgeon J. R. Smith is assigned to duty therein as Acting Surgeon-General.

Assistant-Surgeon Samuel Adams, U.S.A., has been ordered to report in person without delay to Surgeon-General W. A. Hammond, to accompany him to Hilton Head, Headquarters S. C., and the Department of the Gulf.

Surgeon F. G. Snelling, U.S.V., late Medical Director 18th Army Corps, is on leave of absence in New York city.

The Army Medical Board convened last week in New York city for the examination of candidates for appointment as Surgeons and Assistant-Surgeons to regiments of colored troops, has been adjourned, in consequence of the members having been relieved elsewhere.

Surgeon J. H. Grove, U.S.V., has been relieved from charge of General Hospital, Jefferson Barracks, and assigned to duty at General Hospital, Benton Barracks, Mo.

Surgeon William Varian, U.S.V., has been relieved from duty as Medical Director, District of the Cumberland, and assigned to the charge of the General Field-Hospital, at Cowan, Tenn.

Surgeon J. V. Z. Blaney, U.S.V., has been assigned to duty as Superintendent of Hospitals on the Peninsula.

Assistant-Surgeon Roberts Bartholow, U.S.A., has been placed in charge of the Lincoln hospital, at Washington, D. C., relieving Assistant-Surgeon Harrison Allen, U.S.A., who remains on duty as executive officer.

Assistant-Surgeon Weisel, U.S.A., has been assigned to duty at the Conscript Camp, at Mason's Island, Washington, D. C.

The resignation of Assistant-Surgeon R. B. Cruick, U.S.A., has been accepted.

Leave of absence on surgeon's certificate of disability has been granted to Assistant-Surgeon W. B. Wilson, 15th Pennsylvania Vols., for thirty days, and to Acting Assistant-Surgeon J. C. Garland, U.S.A., for twenty days.

Surgeon T. P. Gibbons, U.S.V., has been honorably discharged the service of the United States, in conformity with General Orders No. 100, of 1863, from the War Department, he having been absent from duty over sixty days.

Surgeon A. E. Stocker, U.S.V., has been relieved from duty in charge of Chesapeake Hospital, Fort Monroe, Va., and Surgeon E. B. Dalton has been assigned to the charge thereof temporarily.

Surgeon D. B. Sturgeon, U.S.V., is out from Fort West, Arizona, on a scout against the Mimbres Apache Indians.

Surgeon E. Y. Chase, U.S.V., has been relieved from duty at Fort Vancouver, W. T., and assigned to the expedition to Canon City, Oregon. Surgeon Christian has been assigned to Fort Vancouver.

The resignation of Dr. Frank H. Hamilton, U.S.A., Medical Inspector, has been accepted by the President, to take effect August 29, 1863.

Surgeon John L. Le Conte, U.S.V., has been appointed Medical Inspector, vice Hamilton, resigned.

Surgeon-General William A. Hammond, U.S.A., left Washington, D.C., for the Departments of the South and of the Gulf, on Sunday the 29th ult.

## Original Lectures.

## CYANOSIS.

By J. LEWIS SMITH, M.D.,

PHYSICIAN TO THE ORPHAN HOME AND ASYLUM, LECTURER IN THE UNIVERSITY MED. COLLEGE.

[Being a Paper read before the N. Y. Academy of Medicine, February 18 and March 4, 1868.]

## PART II.

In severe cases of cyanosis the generative system is imperfectly developed. In the female, menstruation is scanty or delayed, and in the male the signs of puberty are feebly manifest. If the disease is so mild that the symptoms are absent when the patient is in a state of repose, these organs attain nearly or quite their normal development. The catamenia have appeared as early as the age of sixteen years; and a cyanotic patient treated by Cherrier, had two children, but they both died of scrofulous affections.

The action of the heart is necessarily much affected. In mild forms of the disease, if the patient is quiet, this organ may beat with considerable slowness and regularity, but in all cases exercise or excitement, which in a state of health would scarcely have any appreciable effect on the pulse, embarrasses its movements, and produces palpitation. In severe cases palpitation is rarely absent, and the pulse is frequent, feeble, and often intermittent.

The respiration corresponds with the action of the heart. It is accelerated in proportion to the frequency of the pulse. The suffering in this disease is largely due to paroxysms of palpitation and dyspnoea. These occur sometimes without any apparent exciting cause, and when the patient is quiet, but they are commonly induced by those causes which we have already mentioned as aggravating the symptoms of cyanosis. They come on suddenly, and are attended by increase of lividity, distension of the jugulars, and sometimes of the cutaneous veins, and by a sensation of present suffocation. They last only a few minutes, and are succeeded by great depression of the vital powers. In infants, on account of greater nervous irritability, and feebler power of endurance, these paroxysms generally end in convulsions, which occasionally are fatal. A cough is sometimes present, but it is usually slight.

Pain is not a common symptom. Some of the patients complained occasionally of headache, with or without vertigo, and occasionally some of pain in the chest, but it is uncertain to what extent or whether these symptoms were dependent on the cyanotic disease. The secretions do not appear to be affected so far as has been ascertained. The same may be said of the intellectual and moral faculties. In a case related by Dr. Chevers; the child was even said to be precocious (Lond. Med. Gaz. vol. xxxviii.). The mind is capable of steady application and acquisition, as in a state of health, provided the emotions are not suddenly excited.

There is said to be a tendency in this disease to hæmorrhage, but this liability, if we may judge from recorded cases, appears to be greater in youth and adult life than in infancy. In two cases in the collection blood was vomited, in one passed by stool, in one it escaped from the gums, in two from the mouth, in eight from the nostrils, and in sixteen it was expectorated. Pulmonary phthisis was, however, usually present in these last cases. In the Western Journal of Medicine, for 1829, an interesting case is described by Dr. Wm. M. Voris of a girl, nine years old, in whom hæmorrhage occurred under the scalp, producing great tumefaction, and nearly closing the eyelids. An incision was made, from which a pint and a half of dark blood escaped, and it was estimated that more than half a gallon was lost during the ensuing two weeks, at the expiration of which time the incision closed. The patient recovered from the hæmorrhage but not from the cyanosis.

Towards the close of life there is occasionally more or  
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less anasarca, especially around the ankles, sometimes in the eyelids and face, and rarely to a certain extent over the whole body. In some patients it co-exists with effusion in the serous cavities.

It is evident a person affected with the severer form of cyanosis is disqualified for the duties of active life. The sports of childhood and the useful labors of mature years require an exertion for which he is physically unfit. He has not the ability even to engage in animated conversation, for he is overcome by emotions, whether of joy or sorrow. He lives almost an idle spectator of the world around him, prevented by his infirmity from engaging in its scenes.

Intercurrent diseases, especially those of childhood, are badly tolerated; but whooping-cough is the one which these patients are especially ill fitted to endure. Still, they sometimes pass safely, not only through whooping-cough, but through some of the most dangerous febrile diseases. It is a question of great interest, but about which little is known with certainty, whether these intercurrent affections are influenced by the cyanotic or venous condition of the blood. The symptoms of these affections are no doubt more alarming, mainly on account of the embarrassed action of the heart, and not on account of the state of the blood; still, it is reasonable to suppose that malignant and asthenic diseases are rendered worse by the lack of oxygen, and excess of the carbonaceous element in the circulating fluid.

Probably cyanosis does not furnish immunity from any other disease, although this statement has been made by a high authority. Rokitsansky says, "*All forms of cyanosis, or rather all the diseases of the heart, great vessels, and lungs, adapted to produce cyanosis, in a greater or less degree, cannot co-exist with tuberculosis. Cyanosis affords a complete protection against it, and in this circumstance may be found an explanation of the immunity from tuberculosis which many conditions of the system, apparently very different in their character, afford.*" (Handb. der Pathol. Anat., II. Btl.) This statement of the Vienna Pathologist, so authoritatively expressed, is instructive, as showing how erroneous opinions may arise from a limited observation of cases. So far from its being true, the low degree of vitality in cyanosis does indeed appear to favor tubercular deposition. I have records of twenty-six cases of cyanosis in which tuberculosis was also present, in several of which the lungs contained cavities. This is about thirteen per cent. of the whole number in my collection—a large proportion, since so many die in infancy, at which period tubercles are not apt to be deposited. Cyanosis appears, also, to favor the development of cerebral diseases, especially congestion and coma, as will be seen presently.

The age which patients with this disease attain has been made the subject of statistical inquiry by Aberle. He states that in an aggregate of 159 cases, 57, or 35 per cent., died before the end of the first year; 108, or more than two-thirds, died before the age of eleven years; 30 between the ages of 11 and 25 years; and of the remaining 21, five only lived more than 45 years.

The age at which death occurred is given in 186 of the cases collected by myself, as follows:—

In 17 under the age of 1 week.  
" 10 from 1 week to 1 month.  
" 12 " 1 month to 3 months.  
" 11 " 3 months to 6 months.  
" 17 " 6 " to 12 "  
" 12 " 1 year to 2 years.  
" 21 " 2 years to 5 "  
" 21 " 5 " " 10 "  
" 41 " 10 " " 20 "  
" 20 " 20 " " 40 "  
" 4 over 40 "



the close of the first year; 121, or more than three-fifths, before the age of ten years; only 24 survived the age of twenty years, and four the age of forty years. Of course, the duration of life depends on the nature and extent of the malformations. Some of these are such as render a speedy death inevitable.

The mode of death is recorded in ninety-five cases, as follows:

19 died in a paroxysm of dyspnoea.  
 10 " suddenly (the exact manner not stated.)  
 14 " in convulsions (infants).  
 2 " of apoplexy.  
 7 " from hæmorrhage.  
 6 " of phthisis (though, as we have seen, twenty others had this disease).  
 2 " of exhaustion, without hæmorrhage.  
 10 " of coma.  
 2 " of abscesses in the brain.  
 1 " of each of the following diseases: cerebral irritation, congestion of brain, effusion in the cranial cavity, acute hydrocephalus, paralysis from acute softening of the brain, dysentery, inflammation of heart, syncope, mucus in the air-passages, thoracic inflammation, choleraic diarrhoea, pneumonia, bronchitis, scarlet fever, croup. One died in trying to walk, one after a violent cough in pertussis, one after a long agony, one after an agony of ten or eleven hours; one is stated to have died gradually, and three quietly.

The ten who are stated to have died suddenly, probably died in paroxysms of palpitation and dyspnoea, which, we have seen, are easily excited and of common occurrence in cyanosis. If so, this was the mode of death in twenty-nine cases. Infants, with few exceptions, so far as appears from the records, died in convulsions. Nineteen patients died of cerebral affections, exclusive of convulsions, and in thirteen of these death was from congestion, apoplexy, or coma. The hæmorrhage of which seven died was probably, in most instances, dependent on phthisis, and six are said to have died directly of phthisis. We may, then, regard paroxysms of palpitation and dyspnoea, convulsions, congestive affections of the brain, and phthisis, as common modes or causes of death in cyanosis.

The nature of the malformations on which cyanosis depended is accurately described in the records of 164 cases. In the remaining twenty-seven, three were living at the time their histories were published. The remaining twenty-four were examined after death, but the examinations were too meagrely reported to answer the purpose of statistics. In ninety-seven of the 164 cases the malformation was similar in its nature, though differing greatly in degree in different patients. The essential or leading feature of this malformation may be expressed in the following terms:—

*Pulmonary Artery Absent, Rudimentary, Impervious, or Partially Obstructed.*

No. Sex. Age.	No. Sex. Age.
Case 1. 15 days.	Case 19. 6 weeks.
" 2. M. 15 mos.	" 20. 5½ months.
" 3. M. 23 years.	" 21. M. 14 years.
" 4. 6 weeks.	" 22. M. 21 "
" 5. F. 12 years.	" 23. F. 2½ years.
" 6. 4 mos.	" 24. M. 18 years.
" 7. F. 5 mos.	" 25. F. 40 "
" 8. M. 1 year.	" 26. 2 yrs. 5 mos.
" 9. 5 weeks.	" 27. M. 5½ years.
" 10. M. 7 days.	" 28. F. 7 "
" 11. F. 9 mos.	" 29. M. 8 "
" 12. F. 11 mos.	" 30. 2 weeks.
" 13. M. 13 days.	" 31. M. 40 years.
" 14. M. 13 mos.	" 32. M. 5 yrs. 10 mos.
" 15. F. 23 days.	" 33. F. 3 years.
" 16. M. 18 mos.	" 34. M. 16 "
" 17. M. 9 years.	" 35. 5 "
" 18. 8 months.	" 36. M. 4 "

No. Sex. Age.	No. Sex. Age.
Case 37. 1 year.	Case 68. M. 13 years.
" 38. 4½ hours.	" 69. F. 16 "
" 39. F. 13 mos.	" 70. F. 8 "
" 40. M. 4 years.	" 71. F. 21 "
" 41. M. 13 "	" 72. F. 12 "
" 42. M. 20 "	" 73. F. 9½ "
" 43. 18 "	" 74. M. 7 weeks.
" 44. 17 months.	" 75. M. "
" 45. M. 6½ years.	" 76. M. 13½ years.
" 46. F. 19 "	" 77. M. 3 "
" 47. M. 9½ "	" 78. 11 "
" 48. 14 "	" 79. M. 10 months.
" 49. M. 6 months.	" 80. 13 years.
" 50. F. 6½ years.	" 81. M. 6 "
" 51. 4 "	" 82. 1 to 2 weeks.
" 52. F. 11 "	" 83. M. 23 years.
" 53. M. 3 "	" 84. M. 13 "
" 54. "	" 85. M. 6 "
" 55. M. 21 "	" 86. F. 17 "
" 56. M. 25 "	" 87. M. 19 "
" 57. 6 "	" 88. M. 34 "
" 58. 6 "	" 89. F. 15 "
" 59. 10 months.	" 90. M. 18 "
" 60. 11½ "	" 91. M. 13½ "
" 61. M. 2 "	" 92. F. 6 months.
" 62. M. 20 years.	" 93. M. 5 "
" 63. 4 "	" 94. F. 8 years.
" 64. M. 14 "	" 95. F. 4 "
" 65. M. 2 "	" 96. 29 "
" 66. F. 17 "	" 97.* "
" 67. M. 13½ "	

In the first twenty cases in the above table the pulmonary artery was either absent or impervious. In the remaining seventy-seven this vessel was pervious, although admitting but a small quantity of blood. Occasionally, the entire artery was so small as to be properly considered rudimentary, and when so it was sometimes pervious, sometimes impervious, so as to resemble a slender cord. But in by far the largest number of specimens, the obstruction was wholly in the ventricular end of the artery, while the distal portion or the portion next the bifurcation was in nearly or quite its normal state. In no specimen was there obstruction in the remote end of the artery, while the part adjoining the ventricle was well formed and free from obstruction.

In eleven of the cases in this malformation the obstruction was due to adhesion of the semilunar nerves, the lines indicating the margin of the valves being still visible. A sort of diaphragm was thus formed with a central opening. Sometimes this diaphragm was elevated in the centre by the impulse of blood, so as to assume the appearance of a truncated cone. In a specimen examined by Dr. Wilks (No. 43) the adherent valves were funnel-shaped. In No. 93, in place of the valves was a thimble-shaped elevation, on which the lines showing the boundary of the segments, if any had existed, were effaced. In this specimen the artery was very small, and but a minute quantity of blood could have passed the obstruction.

In rare cases the obstacle was an adventitious membrane stretching across the artery, and entirely distinct from the valves. In one specimen (No. 17) the vessel was entirely closed by a dense fibrous membrane. In No. 25 a membrane perforated by a slit, crossed the artery above the valves. In a specimen examined by Louis (No. 56) the artery was obstructed by a "species of horizontal fibrous septum, perpendicular to the direction of the vessel, and pierced by an opening two and a half lines in diameter." Although in some of the cases in which there was adhesion of the valves, or an adventitious membrane, there was also

\* Since this paper was written, the following additional cases of cyanosis have come to my knowledge:—One by Dr. Richardson, in the *Lond. Med. Times and Gazette*, Dec. 23, 1860; one by Sturrock in the *Rizgar Beitr.* iv. 2, *Canst.* vol. iv. page 19; and one by Mr. Barillier, *Gaz. des Hôpitaux*, March 2, 1861; but they throw no additional light on the nature of the disease. Two of these patients had tuberculosis.

narrowing of the artery, this did not increase the obstruction; in other words, there was no point in the artery at which the calibre was so small as the central opening between the valves, or in the membrane.

In a large majority of cases, however, in this malformation, the obstruction was due to narrowing or contraction of the artery itself, not far from the valves. The specimen in which it was most remote from them, so far as can be determined from the records, for they do not always give its exact location, was No. 83, in which it was one inch above the valves, and was partially ossific. Usually the constricted portion contains only the normal tissues of the artery.

When there is great narrowing of the pulmonary artery at or near the valves, it is evident the latter cannot have their normal development. In no one of the twenty cases in which this vessel was impervious were these valves present, so far as appears from the records, even in a rudimentary state. In the remaining cases they were sometimes small and imperfect (Nos. 32, 37, 61, 70, 90); sometimes there were only two segments (Nos. 31, 37, 41, 44, 51, 52, 58, 62, 63), sometimes the valves were thickened (Nos. 34, 75, 76), and sometimes cartilaginous or ossified (Nos. 59, 88). In one specimen the valves were attached by their apices to the internal coat of the artery (No. 79); in one the obstruction was produced solely by vegetations attached to one of the valves, and not infrequently in other cases vegetations were found in the narrow part of the artery, reducing still more the calibre of the vessel.

In seventy-eight of the cases in this malformation the septum ventriculorum was incomplete. There was usually at the base of the septum a round aperture, sufficiently large to allow free communication between the ventricles. This aperture was always in the part of the septum nearest the aortic orifice. In one patient (No. 90) it was quadrilateral; occasionally, it embraced a considerable part of the septum, and in three the septum was nearly absent (Nos. 64, 65, 93). In five cases there was no communication between the ventricles, and in the remaining fourteen it is not stated whether the septum was complete or deficient. The circumference of the aperture was always smooth, and covered by the endocardium, showing that it was a malformation, and not the result of ulceration.

## Original Communications.

### MUTATION IN DISEASE.

By L. B. COTES, M.D.

BATAVIA, N. Y.

THE remarks upon the "Causes of Modern Changes in the Art of Prescribing," in a late number of the *Times*, have induced me to communicate the following hypothesis, growing out of the fact of this change, and which, permit me to say, has very much helped me in my theory and practice for more than twenty years, besides affording me much satisfaction to be able, with it, to answer many questions, made by my patrons and others, in relation to the fact of these changes.

In the first place I will ask, why or wherefore is it that this change in the art of prescribing has been made?

Firstly, I answer, physiologically, that it is because the action, force, and diathesis of the human system under the influence of disease has changed; and secondly, pathologically, because diseases present different phases now from what they did half a century ago, particularly and emphatically those belonging to the class phlegmasia.

A secret influence in the air, earth, and water, which we can neither see, taste, nor handle, operates on and affects the animal economy in a diversity of ways, modifying and changing the character and form of disease at its pleasure, contending with the skill and ingenuity of man, and often-

times baffling and conflicting with previously established rules and theories, sending forth new phases, and occasionally new maladies, or the return of one so long absent that its identity is hardly recognised. Throwing among us at one time epidemics or endemics, pneumonia, or scarlatina, or typhus fever, or dysentery, or spinal meningitis, its effects are so regular and general every returning autumn upon the mucous membrane of the air passages, that it has been said that hardly one in ten thousand escapes its influence, more or less, every year in some form.

It is evident then, from this and much more, that we are to study the operations of external nature as well as books; the enemy that surrounds us, the manner of his approach, and the nature of his attack; to understand even imperfectly the nature of disease, its "whys and wherefores," its forms and phases, and, with the help of these combined, to make a tolerable application and use of the science of therapeutics.

But what has this to do with mutation? Very much, as we may readily see, and which we will endeavor to consider in the sequel. If the atmosphere is so prolific with the fruits of disease as to be the source or vehicle of all our epidemics and endemics, how readily may we be led to suppose, and how reasonable the inference, that when an epidemic atmospheris is established to a great extent, and long continued, its effects may be felt, and exerted upon all disease, more or less; so that when we have pneumonia in cold weather, or dysentery in warm weather, or typhoid fever in either, they may be materially modified by a radical change in the materials that engender them. Science does not, if it ever will, enable us, by analysis, to demonstrate the changes and show the peculiar qualities of this mysterious influence that resides in the air, earth, and water. The constituents of these we can analyse, separate, and demonstrate, but to that we cannot approach so familiarly; we are profoundly ignorant of it, except from its effects. In its effects we recognise a peculiar elective affinity in its operations, its positions, its location, etc., as, we may instance, the particular portion of the mucous membrane lining the air passages; sometimes attacking the first portion of that extensive surface, sometimes the last, and at other times some intermediate portion, the pharynx, larynx, trachea, or bronchia maintaining its integrity, perhaps, and continuing its operations at one time, and becoming diffused at another; and if we know nothing of this imponderable substance, except from its effects, with what jealous eye must we scrutinize its workings.

Prof. Watson says:—"Great epidemics leave traces of their operation long after they have ceased to prevail as epidemics, upon the health and vitality of a community."

Prof. Dunglison says:—"When a particular epidemic constitution of the air exists along with a favorable endemic condition, these combined influences may act in the causation of several of those serious and fatal complaints which at times visit a district, and are never afterwards met with, or at least not until after the lapse of a considerable period."

Here is (at least hinted at) a system of uniformity, an exactness, a regularity in the unseen laws and causes of disease that is mysterious and grand, and I wish we could say too little known, because too little studied.

Secondly. Is the treatment of disease that has of late assumed a new phase, the result alone of experience and investigation? Rather, did not the profession understand the nature of pneumonitis, pleuritis, and in fact all the class of phlegmasia half a century ago, as it presented itself then, as well as it does now? And did not the profession resort to the more frequent use of venesection, calomel, antimony, etc., with as much benefit then, nay, with as much imperative demand for the use of these agencies then, as there is for us to resort to the more modified treatment in this class of disease at the present period?

*Theory.*—When an epidemic atmosphere pervades any degree of latitude, the endemics that may appear within its circuit may be influenced or modified by it, and that

influence will be felt commensurate with the space and time allotted for its action. We are living in, or just emerging, perhaps, from an epidemic atmosphere that has pervaded the whole of earth's surface; and how much are we to recognise in this the cause of this mutation and the consequent change in the treatment of disease other than "the present state of medical science and the resources of our pharmacopœia," or by "physiological investigations and pathological examinations," or by any "improved methods alone of diagnosis."

When epidemic cholera first made its appearance upon the earth, and we began to have accounts of it, no one supposed that it was to pervade the whole surface of the globe; but it began to travel, and the query arose—Will it reach the American continent? And after it had passed over this country the cholera atmosphere became a subject of remark; and although its effects were more prominently exhibited in localities where it found most nourishment, its presence was recognised by modifying and changing very much the form and violence of other diseases everywhere. And after a further lapse of time it began to be hinted that a change in the treatment of disease was going on, and still more specifically, that we do not bleed as much as formerly, we give tartarized antimony in smaller quantities; and it finally arrived to a point that these agencies are discarded entirely in pneumonitis and other inflammatory affections.

Prof. Watson, in his last edition of printed lectures, says, "Years have passed by since I have met with an instance of pneumonia which has required phlebotomy," and, I may say, he adds much the same of inflammatory diseases in general.

The distinguished M. Louis advocates that "Venesection has not now much control over the progress or the issue of pneumonia in any of its forms."

Prof. Jodin, of Dublin, recommends some of the preparations of iron for croup. Here we have English, French, and Irish authority; and upon this side we might introduce the testimony of Professors Flint, Rochester, Peaslee, Eastman of Owego, Doctor (I believe now Prof.) Bell, of Kings, Doct. Gibbs of Chetauque, and others.

I would not say with Dr. Hugh Bennet, that "antiphlogistic remedies, and bloodletting in particular, are unsuitable and even hurtful in all acute inflammations," but that there is no doubt that the amount of these remedies once called for has very much diminished, and that it is in consequence of a very great change in the nature and form of disease; and that the best support for these premises is found by comparing the views, the theory, and the practice of the present time with what it was previous to the end of the first quarter of the present century.

Now, is not the true philosophy of all this to be found in the fact that, when Asiatic cholera had travelled round the earth, a peculiar constitutional atmosphere was or had been established, differing from what had existed before, and which has continued to the present time, modifying the character of disease? That the natural tendency of the atmosphere that we breathe is to predispose the human system to debility? That the powers of the system under the influence of disease are sooner exhausted, and generally require more artificial support from the inception of disease than formerly.

We all know the different treatment required in phlegmonous and erysipelatos inflammations. We are all acquainted with the different effects of the different temperatures which the rotation of the seasons produces. We have all witnessed the different states the blood is thrown into by different epidemics and diseases where the plastic tendency is elevated or depressed, bringing it to its highest point of sthenic elevation, or breaking it down to a non-coagulable state.

Now, the precise nature of the cholera diathesis is evidently to relax and depress rather than to elevate, so that, as far as it is capable of producing an influence upon other diseases, it has a downward tendency. Unlike other epidemics that have ever visited the earth, the cholera at-

mosphere, like the flood of old, has deluged the whole earth; and as long as its presence remains, so long will the present status of disease exist. But the eternal circle of nature may bring about other changes that will restore, perhaps, or eventuate in producing another diathesis that may call for a more liberal resort to the lancet, calomel, and antimony.

Homœopathy (Hahnemann's satire) and cholera are twinsisters, so far as the period of their birth, longitude, and latitude, are concerned; but can the former claim any share in opening the eyes of the profession to a sense of its duties, or enlighten us upon the nature of disease, as to what it has been or is now? I must first be made to believe that the nature of pneumonitis, pleuritis, rheumatism, and all the class of acute inflammations, is the same now as half a century ago, and that the remedies we now use in this class would not have been like hot lead to the patient at that time; in fact, it would seem that the term *acute* is hardly or rarely to be applied at this time, but that *subacute* is more appropriate.

I would ask, in all candor, if, with the change that has been going on in the treatment of this class of disease, there has not been a corresponding change in the force and character of it? or are we to yield to empiricism all it claims in relation to this point? And as I perceive that it is being conceded by some that "our art is now emerging from a sad error," I would respectfully appeal to the profession for further views upon this interesting topic.

I am aware of the great improvements that are going on in the different branches of our profession, and desirous of its continuance; and I am equally anxious that the right causes should be attributed to the matters of fact connected with this particular subject.

## CYSTIC SARCOMA OF THE BREAST.

By J. GRAFTON.

WATER-TOWN, JEFFERSON CO., N. Y.

THIS form of disease, so well described by Sir A. Cooper, under the name of hydatid disease of the breast, is especially interesting to the surgeon from the fact that, although often mistaken for malignant disease, it has no malignancy in its nature, and is readily susceptible of cure.

The patient whose case I now record had suffered much from anxiety of mind engendered by the belief that she was the victim of cancer, and *this was all her suffering*: an excellent diagnostic point, not unimportant for physicians, as well as friends, to remember.

Notwithstanding the enormous size of the tumor, now measuring two feet in circumference, she has never yet experienced from it any pain; nor has it, as far as she is aware, perceptibly interfered with her general health.

The patient, Mrs. E. S. of Theresa, is married, 51 years of age, and still menstruating. Her general health is good, she is rather spare, but not much emaciated. There is no hereditary taint on either side of her own family. She has never injured her breast, has never suckled, being without children. The only malady to which she considers herself especially liable is erysipelas.

She does not remember exactly when the tumor she consults me about to-day commenced. When first noticed it was very small and hard, situated on the outer side of the right breast, on a level with the nipple, but not connected with it, oval in shape, deep-seated, and firmly fixed; if she has ever had any pain in it, it has only been of momentary duration.

Last year, one year from present date, Feb. 9th, 1863, the growth was about the size of a butternut; during the past ten months it has enlarged very rapidly, and is to-day twenty-four inches in circumference.

The general aspect of the tumor is unevenly globular, in some places very elastic, and evidently containing fluid; on the outer or axillary side more fleshy and dense. The cutaneous veins are much enlarged, surrounding the base, and running over the surface of the tumor in every direc-

tion. The position of the nipple and its general appearance are normal. The tumor appears to be freely movable on the pectoral muscle. The axillary glands are not enlarged.

The condition of the left breast is perfectly normal. Being perfectly well convinced of the cystic nature of the tumor, I did not think it necessary to use the exploring needle, as she was not then quite prepared to submit to the advice given—"its immediate removal."

On the fourth of March, assisted by my very able friend Dr. F. Lowe of Pulaski, and Messrs. Davidson and Babcock of Theresa, I removed the tumor. The operation was perfectly simple and easy; two elliptical incisions through the integuments below and above the nipple, preserving sufficient covering for the exposed surface, being about all, as the tumor was readily peeled off from the surface of the pectoral muscle with the handle of the knife, being connected to it only by filamentous bands of cellular tissue. There was but little bleeding, one small vessel only at the inner angle of the wound requiring a ligature. Three sutures with intervening strips of adhesive plaster sufficed to keep the flaps in apposition. The arm was brought down and secured to the side. In three weeks the extensive wound had entirely healed, without an untoward symptom.

The tumor was composed of cysts and solid substance involving the whole of the gland, and weighed after its removal five lbs. and four ounces avoirdupois.

The large size which these tumors attain shows the importance of early interference in several cases that have come under my observation in their first stage. Free incision, evacuation of their cystic contents, and stuffing with dry lint when unable to draw out the cyst, have always effected a cure.

### THE EXPULSION OF TÆNIA.

By CHAS. HASBROUCK, M.D.,

HACKENSACK, N. J.

For several years past reports of cases of tænia successfully treated with pumpkin-seeds have occasionally been published in the medical journals, and in some of these cases this simple remedy is said to have been employed with entire success, even after the failure of the spts. turpentine, kousso, and pomegranate, the medicines which have usually been relied upon in the treatment of this variety of intestinal worm.

It is very natural to suppose, from the enormous development of the tapeworm, and its apparent tenacity of life, that some powerful medicinal agent must necessarily be required for its expulsion from the intestinal canal; and, notwithstanding the published testimony in favor of the pumpkin-seeds, it seems almost incredible that anything so simple and harmless can yet be so destructive in its action upon this formidable parasite. Indeed, it is by no means improbable that physicians are sometimes influenced by this apparent disproportion between the gravity of the disease and the well known harmlessness of the proposed remedy, to overlook the pumpkin-seeds entirely in the treatment of tapeworm, and to employ instead some other agent, more energetic in its action upon the economy, but at the same time, perhaps, less efficient, and certainly less safe.

The following case, which recently came under my care, will serve to illustrate this tendency to neglect an excellent but innocent remedy, simply because it is innocent, and may also prove of some interest as affording additional evidence of the value of the pumpkin-seeds in the treatment of tapeworm.

Mrs. —, about 45 years old, of vigorous constitution, and, until recently, of uniformly robust health, a year or two ago began to suffer with symptoms of indigestion, viz. inordinate appetite, furred tongue, irregular action of the bowels, and occasional attacks of colic. In February or March last she first noticed that she occasionally passed

portions of tapeworm, generally in detached joints, sometimes in pieces of two or more joints. For this she consulted her family physician—a very intelligent and judicious practitioner—who at once prescribed the spts. turpentine in purgative doses. Being apprehensive that such large doses of the turpentine might prove injurious, she took the medicine in much smaller quantities than were directed, limiting herself to doses of a teaspoonful once or twice a day two or three days in the week. Under this treatment, which was continued for several weeks, she passed a larger number of single joints of the worm, and, on two occasions, pieces of eighteen inches or two feet in length. But becoming discouraged at the slow progress of the cure, on the eighth of July last she consulted me. As I had never had an opportunity of testing the virtues of the pumpkin-seeds in tapeworm, I determined to do so in this case, and accordingly advised her to discontinue the turpentine for the present, and, after fasting for twenty-four hours, to take two ounces of the seeds—the pulp deprived of the rind grated with sugar, and mingled with half a pint of hot water—to be followed an hour afterwards by a dose of castor oil. She followed my directions strictly, and in less than two hours after taking the seeds passed a tapeworm nearly eight feet long.

That the result in the above case was due to the pumpkin-seeds, and not, as may perhaps be suggested, to the spts. turpentine that the patient had previously taken, is evident, I think, from the length of time that intervened between the discontinuance of the turpentine and the expulsion of the worm.

Mrs. — took a teaspoonful of the spts. turpentine an hour or two before I saw her on the morning of July 8th. She took none afterwards, intending to commence the treatment with the pumpkin-seeds immediately. The unexpected arrival of visitors, however, obliged her to postpone the use of the seeds until the 20th. On the 19th she abstained from food. On the morning of the 20th she took the pumpkin-seeds as directed, and an hour afterwards an ounce of castor oil. In less than half an hour after she passed a part of the worm, but in attempting to remove the whole, it broke. A few minutes later, with the second operation of the oil, she passed the remainder of the worm, including its head.

It will thus be seen that nearly a fortnight had elapsed after the last dose of the turpentine was taken when the tapeworm was expelled—a fact which, it seems to me, must preclude the idea of there being any relation between the two events as cause and effect. Besides, the worm still showed signs of life when first passed, a circumstance which, I apprehend, can scarcely be reconciled with the assumption that the spts. turpentine taken twelve days before was the efficient agent in the treatment.

The pumpkin-seeds employed in the case were the seeds of the common cheese or milk pumpkin, generally used in our county for culinary purposes, and cultivated by our farmers for the New York market.

DURING the thirty-one weeks ending the first day of August, no less than 1448 deaths have occurred from small-pox in the metropolis. Since 1843 the mortality has but twice been in excess of this amount for the whole year—in 1844 and 1848. The ratio of deaths to cases admitted with small-pox into the Small-pox and Vaccination Hospital from 1836 to 1851 inclusive, as recorded by Mr. Marson, was nearly 20 per cent. Assuming that the proportion of deaths to cases in the present epidemic has been 1 to 5, it would follow that upwards of 7000 persons have suffered from this most loathsome but most controllable malady in London within the past seven months.—*Lancet*.

OVARIOTOMY had been performed three times in Ireland, but never with success until last week, when Mr. Spencer Wells operated on a lady, fifty-five years of age, who has since progressed towards recovery in a most favorable manner.

## Reports of Hospitals.

### GEORGETOWN SEMINARY HOSPITAL.

By SURGEON DUCACHET, U.S.V., IN CHARGE.

#### GUNSHOT WOUNDS OF THE ABDOMEN—BALL BEING PASSED BY THE RECTUM.

CASE I.—Lt. L. H. H.—d, Co. H, 14th Indiana, aged 22 yrs., was admitted into this hospital May 6th, having been wounded May 3d at Chancellorsville by a conical ball, which entered an inch and a quarter below the umbilicus, and a quarter of an inch to the left of the median line.

The patient's account of himself was, that he had suffered but little pain from the wound, but had been troubled greatly with giddiness and nausea, with difficulty in passing his water. He had no passage from the bowels until the 5th, when the Surgeon-in-charge of the boat upon which he came to Washington, gave him a purgative, which acted naturally, and relieved all the symptoms but the difficulty in micturition. His appearance at the time of admission was good; there was no tenderness of the bowels, or tympanitis. On the morning of the 8th he complained of slight pain in the abdomen, and at 4 P.M. had a passage from the bowels, which was found to contain a minie ball, very much battered and out of shape. He continued from this time until the 20th to have a passage about once in six hours, with occasional attacks of vomiting, when he began to improve. The wound healed kindly, and he went to his home on the 12th of June on a leave of absence.

CASE 2.—Corporal C. B. Lupton, of Co. B, 2d New York Cavalry, aged 20 yrs., was wounded near Rockville, Md., July 28th, 1863. The ball (a solid conical pistol-ball) entered from behind, and passing between the transverse processes of the 3d and 4th lumbar vertebrae, lodged within the cavity of the abdomen. The patient was admitted into the Georgetown Seminary Hospital on the afternoon of the day on which the injury was received, being much prostrated; had a high fever, and great tenderness of the abdomen, which was tympanitic. A mild purgative was administered, and a flaxseed poultice applied to the abdomen. The bowels moved twice on the morning of the 29th, after which he expressed himself as being very comfortable. On the 4th of August about 4 P.M. he passed the ball by stool; a slight diarrhoea followed for some days, with pain on passing his urine. About the 9th these symptoms began gradually to abate, and on the 27th of July he was transferred to another hospital, and has since gone home on leave of absence. The treatment throughout consisted of a carefully regulated diet, rest, opiates, and fomentations to the bowels, as the symptoms demanded.

## Reports of Societies.

### KINGS COUNTY MEDICAL SOCIETY.

#### AN INTERESTING CASE OF BLACK VOMIT,

WITH DISCUSSION AS TO ITS ETIOLOGY.

[Presented to the Kings County Medical Society.]

By J. T. CONKLING, M.D.

APRIL 21st.—A seaman, aged 19, left New Brunswick in October last for Kingston, Jamaica. While there he had, he said, bilious fever, and was confined to the hospital several weeks. He remained on the island two weeks longer in a boarding-house, where his food consisted only of bread and salt fish. On the first of February he left in the barque John Bolton for Philadelphia, and, though very feeble, worked his passage during a voyage of eighteen days. From Philadelphia he came directly to this city,

arriving here on Thursday morning, Feb. 19th. He partook of a breakfast of beef-steak and coffee, and at dinner, of corned beef and cabbage. In the evening he vomited, and had a restless night. His sister said she gave him on Friday salts and cream of tartar, which produced vomiting and purging. Friday evening, at seven o'clock, he commenced vomiting large quantities of dark fluid matter. I first saw him on Saturday morning, at three o'clock. He was suffering with severe pains in the bowels; had intense thirst; would drink a few swallows of water, and immediately vomit a pint or more of black fluid, which excoriated his throat and had a very acid odor; his pulse was natural; eye clear; and skin normal in color and temperature. His bladder was empty, and he told me he had passed urine the evening before. The vomiting continued during the day and following night. His mind remained clear. There was a constant restlessness and shifting of position in search of ease. There was no evacuation of urine or feces after I saw him. His strength failed gradually, and he died at nine o'clock on Sunday morning, thirty-eight hours after the first occurrence of the dark vomited matter.

Drs. Enos and Bell saw him previous to death. The post-mortem and microscopical examinations were made by Dr. Speir. The following is Dr. Speir's report:—

*Autopsy, seven hours after death.*—Body well formed but emaciated; not yet cold; rigor mortis not well pronounced; surface tinged livid; frothy mucus filling the nostrils. The pectoral and abdominal muscles were of a very dark color, almost purple. *Thorax.*—Old adhesions at the posterior part of the left lung. Intense sanguineous engorgement of both lungs. Incisions made in any part of the lungs gave rise to an abundant flow of very dark-colored blood. The pericardium contained about an ounce of yellow serum. The heart was full-sized, firm, usual amount of fat; veins upon the surface distended with blood; the cut surface presented a darker hue than usual; intensely black clots in right ventricle and auricle; a very small light-colored clot in right ventricle, and a very small black clot in the left auricle; slight thickening of semilunar valves of aorta; otherwise valves perfect. *Abdomen.*—Liver very dark, between a purple and chocolate color; appeared normal in size; borders sharp and well defined; a few patches upon the anterior surface of a lighter color than the rest of the organ, having a slight yellow tint. The organ was firm; its cut surface was smooth, and, contrary to opinion based upon its dark color, it was dry, little or no blood making its appearance in the course of the knife. Its ducts were stained with yellow bile. *Stomach.*—Very large, extending down to umbilicus and into right lumbar region, and filled with two quarts of black fluid similar to that vomited by the patient; very acid odor; mucous membrane near the pylorus much congested and bared of mucus; the other portions were covered with thick mucus mixed with dirty black material like the vomita. *Duodenum.*—Filled with a similar black fluid; mucous membrane dark colored; not congested; intestines at some points much congested; they contained but little fecal matter, of a yellow color, with only slight odor. Peyer's patches were healthy. The *spleen* was twice its normal size, of a dirty black color, and becoming diffuent. The *kidneys* were congested, nearly normal in size, and firm; their capsules firmly attached; cut surface smooth, dark colored, and soon covered by a layer of dark blood. The *supra-renal capsules* were of a dark color, their cortical and medullary substance not being well defined. The head of the *pancreas* was a little enlarged, otherwise normal. The *bladder* contained about four ounces of reddish urine. The *blood-vessels* contained but little blood, and that of dark color.

*Microscopical and Chemical Examination.*—The *black vomit* was very acid. Seen through the microscope with a power of about one-fourth of an inch, it was composed of a thin, transparent fluid, floating in which were found—striated muscular fibres (ingesta), altered starch corpuscles, a few oil globules, altered blood corpuscles, and numerous

sarcinae ventriculi, the whole field being covered with black amorphous granules, varying in size, and some of them aggregated together; many of them, on changing the illumination and focus, transmitted a deep red light. They were not acted upon when treated with acetic acid, but were dissolved by ammonia and liquor potassae, giving a deep red color. They were considered to be granules of hæmatoidin. *Liver*.—Its cells were normal, with the usual amount of fat. A few cells were found in process of fatty degeneration; these were rare. *Amorphous granules* similar to those found in the black vomit were everywhere present, but less abundant than in the vomita. In some places the granules were fine, and gave to the field a yellow tint. A few crystals were found, probably so-called blood-crystals. *Heart*.—Muscular fibres perfect; granules of hæmatoidin present, but not abundant. *Kidneys*.—A few of the tubes were partially denuded of their epithelium; abundant granules of hæmatoidin; otherwise healthy. *Spleen*.—Considerably disintegrated; abundant granules of hæmatoidin; blood corpuscles much changed and broken down, being swollen, oblong, irregular, and granular. *Pancreas* healthy; contained a very few granules of hæmatoidin. *Supra-renal capsules* apparently healthy; granules of hæmatoidin more abundant than in pancreas. *Urine* albuminous; scales of epithelium from bladder and ureters; urate of ammonia, blood corpuscles, and granules of hæmatoidin.

The dark coloration of the tissues seemed to be due to the abundant granules of hæmatoidin, the shade of color depending upon the size, depth of color, and aggregation of the granules, the very fine ones giving a yellowish tint to the field of the microscope.

As the coloring matter of the bile (cholepyrrhine) is closely allied to hæmatoidin, it would seem possible for the latter, under certain circumstances, to give a yellow color to the skin and tissues, similar to that sometimes produced by the coloring matter of the bile, instead of the purplish color observed in this case.

#### REMARKS BY DR. A. N. BELL.

DR. BELL stated that, besides having seen the case of fever reported by Dr. Conkling, he had also been privileged to assist in the post-mortem, and that, notwithstanding the unusual circumstances of climate and season, he thought the evidence conclusive that it was an uncomplicated case of yellow fever. The yellowness of the skin and the fawn color of the liver, which were absent in this case, though generally present in yellow fever, were by no means essential in the diagnosis, especially when we have, as in the case reported, the most pathognomonic of all the symptoms, *black vomit*, and the most pathognomonic of all the post-mortem appearances, *fatty degeneration of the liver*. And, in addition to these conditions, we also have a large quantity of "black vomit" in the stomach and intestines; a fluid blood, with broken-down corpuscles; an emptiness of the bloodvessels; an intensely congested and almost diffuent spleen—indeed, *all* of the most usual conditions of a rapidly fatal case of yellow fever. Dr. Bell also stated, in connexion with this case, that he had observed, in common with others who had had much experience in yellow fever in different climates, that it usually ran a more rapid course, and was more fatal in climates where it rarely occurred than where it is indigenous. He accounted for this by analogy: in that the organism of individuals attacked by it under such circumstances was deprived of the benefit of a gradual adjustment to the influence of the poison, on the same principle as that a vigorous bird speedily perishes in an atmosphere which will sustain one gradually brought under its influence for a much longer time. In such cases, too, we should expect to find a less perfect symptomatology and a less perfect degree of pathological lesion, as in the case under discussion. Yellowness of the skin, though a common symptom, is nevertheless frequently altogether absent. It rarely occurs in any case before the third day, on the decline of febrile excitement,

and is usually regarded as the beginning of the second stage of the disease. Hence, in those cases which are fatal during the period of excitement, yellowness of the skin is commonly absent, or does not occur until after death. Fatty degeneration of the liver, also, in the case reported, seems to have but just commenced; and the liver, instead of being fawn color, as it probably would have been had the case been of longer duration, was just beginning to be so in spots. Whether fatty degeneration of the heart is consequent upon a still more protracted continuance of the disease, cannot as yet be made apparent. Prof. Riddell, of New Orleans, regards "molecular degeneration of the heart" as being a much more constant lesion than fatty degeneration of the liver. According to his (Dr. Bell's) experience the converse is the case. Of four cases examined microscopically last summer, in the Floating Hospital, they all had fatty degeneration of the liver, and one only molecular degeneration of the heart; that one died on the seventh day. Fatty degeneration of the heart is a comparatively recent discovery in yellow fever,\* and by the microscope only, while the commonly present fawn-colored liver in this disease has for a long time been supposed to indicate a fatty degeneration of that organ. Pathologists of the present generation will hardly accept the proof of fatty liver on the mere presence of yellowness; or, on the other hand, regard the absence of this color as corresponding with the absence of this important lesion. The now universally acknowledged importance of the microscope applies to nothing with more force than to yellow fever, and, while it had been his opportunity to have passed through several epidemics of yellow fever, and to have made a large number of post-mortem examinations in this disease, its true lesions he had never, until recently, observed. It was his firm belief that the thorough and accurate delineation of this single case by Dr. Speir is of more value to the profession than all the experiences of a Chisholm. In conclusion, Dr. Bell read the following extract from a letter that he had received from DR. LA ROCHE, in reply to one that he had written to that distinguished authority regarding the history of this case:—

"The *John Bolton* entered on her voyage to Philadelphia on the nineteenth of January, at Porto Cabello, and, touching at Kingston, Jamaica, left that port on the second of February. She arrived in Philadelphia on the eighteenth of February, after a passage of sixteen days, and entered on the nineteenth. The Captain reports no sickness either in Porto Cabello or at Kingston, and the vessel had no sickness on board from the commencement of the voyage, and the officers and crew were all well when they were examined. The vessel cannot have been in foul condition when she reached Philadelphia. Had there been anything wrong about her, the Port Physician, Dr. Trenchard, who is a careful officer, would not have failed to report the fact to the Board of Health. From all this it would appear that the patient proceeded to Brooklyn on the very day of the visit of the Port Physician; that although he may have been ailing at the time of the examination, he was not sufficiently so to attract the attention of that officer; that he did not suffer from any poison generated or lurking in the vessel, since no one else on board, during the voyage or after the arrival of the vessel, was affected in like manner, or in any way approaching to it. Hence the case, supposing it to have been one of yellow fever—and on this point, I think, there can be no doubt, the absence of jaundice in so rapid an attack being a matter of not the smallest consequence—the case, I say, may very fairly be referred to a poisonous impregnation received at Porto Cabello, or perhaps more likely at Kingston. It is true, as the Captain reported, that 'no sickness prevailed in the harbor or on shore, or at either of the said places;' but it is well known that in tropical seaports the poison of yellow fever is never so effectually banished, however healthy the

\* 1868. Riddell, Microscopical Obs. pertaining to Yellow Fever.



season may be considered,\* as not to pounce upon some unlucky fellow peculiarly predisposed to its morbid influence. If I am not mistaken in what precedes, you have had before you an instance of rather long incubation—of thirty-one days—if the poison was received at Porto Cabello, and of nineteen days if the disease is to be traced to Kingston. I incline towards the latter view, inasmuch as we can hardly suppose that the poisoning took place on the very day of departure from either port, and a few days more would make the period of incubation from Porto Cabello too long, though such long periods, and even much longer ones, are not unknown, but they are comparatively rare."

(To be Continued.)

## NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, April 8, 1868.

DR. H. B. SANDS, VICE-PRESIDENT, IN THE CHAIR.

### FRACTURE OF CERVIX FEMORIS.

DR. SAYRE presented a specimen of fracture of the neck of the thigh bone, which was removed at the post-mortem examination of a woman aged 87. Three years previous to death she caught her foot in the carpet, and fell heavily upon her right trochanter, causing the injury referred to. Dr. Sayre saw her very soon after the accident, and, considering her age, did not deem it worth while to make any strenuous efforts towards union. The limb was everted, and there was about an inch shortening.

The foot was merely supported on either side by sand-bags, and moderate extension kept up. In the course of two or three months she could raise her heel from the bed, and in six months' time was able to walk about, bearing the whole weight of the body upon the limb. She was enabled to walk from that time until her death without the use of a cane.

At the autopsy the fracture was found outside the capsular ligament, and apparently united. The line of fracture, however, was barred from view by a large amount of exostosis, which existed in the vicinity of the lesion. Dr. Sayre conceived the idea of boiling the specimen, as recommended by Dr. Geo. K. Smith, when to his surprise he found that no union had taken place, and that the head and neck of the bone were freely movable upon the shaft. The connective substance consisted of a glue-like material, which possessed the property of becoming very hard and firm on cooling and drying. The point of interest in the specimen consisted in proving the value of Dr. Smith's test by boiling.

### BONY INTRA-UTERINE TUMOR.

Dr. Sayre also exhibited a uterus, removed from a woman aged 70, who died in the almshouse. The organ contained in its interior a bony tumor the size of a goose-egg, and during no time had any symptoms of its presence been complained of by the patient. There were also two or three fibrous tumors attached to the external surface of the organ.

### CYSTIC TUMOR OF BROAD LIGAMENT.

DR. SANDS exhibited a cystic tumor of the broad ligament, removed by ovariectomy from a single woman, 35 years of age, a patient of St. Luke's Hospital. A gradual swelling of her abdomen commenced five years previously, unattended with any pain or constitutional disturbance. The menstrual function had never been interrupted. The amount of fluctuation over the abdomen was so great that at first it was supposed that there might be ascites. The tumor was movable to a certain degree during respiration, and there were no evidences of any adhesions. The uterus was low in the pelvis, the cervix being pushed down nearly to the vulva. The case being considered an exceedingly favorable one for at least an explorative operation, the consent of the patient was easily obtained. On the 30th of March last the operation was performed. An incision was

made in the median line, about an inch below the umbilicus, and extending down for three inches. The hand being passed over the anterior and lateral surface of the tumor and detecting no adhesions, it was deemed best to proceed and extirpate the disease. Accordingly a trocar was introduced into the sac, drawing off nearly six gallons of a clear limpid saline fluid. This fluid, being examined by Dr. Dalton, was found to contain no albumen, and but a trace of organic matter. During the evacuation of the contents of the sac, the abdominal walls were so carefully compressed that no organ of the abdomen was seen except the uterus and the broad ligament, and those only for an instant. The tumor was found attached only to the broad ligament by a small pedicle. A double ligature was passed through the middle of the pedicle, tied on either side, and the pedicle cut off between. In thus dividing the pedicle, a small portion of the wall of the sac was left behind. After the removal of the tumor, the pedicle was brought through the abdominal opening, and secured in position by means of a large darning needle, and figure-of-eight suture, after the manner of dressing hare-lip. The lower portion of the mass being inclined to draw backwards into the abdomen, its position was made secure by passing a strong ligature through it and through either lip of the wound. The remaining portion of the wound was closed by silver sutures, and a broad bandage and compress applied. The remaining portion of that day and evening the patient was quite comfortable, passing a tolerably good night with the aid of two doses of Squibb's liquor of opium. Her diet was farinaceous. On the day following, Tuesday, her pulse was good (73), and her skin was moist, though she complained of slight nausea, and presented a certain pallid aspect. There was no swelling or tympanitis, and she complained of no tenderness, only referring to a dull ache in her lumbar region. She passed a restless night. On Wednesday her pulse was 83, and nausea was still present. This night was alike a restless one, notwithstanding the pretty free use of anodynes. On Thursday her pulse was 120, but even then there was no tenderness on pressure, nor signs of tympanitis. Wine and opium were freely given, but she soon after began to sink, and during the night vomited some. On Friday the pulse was 140, and at nine o'clock P.M. she died.

The post-mortem examination was made the following day, and the cause of death was found to be universal inflammation of the peritoneum. A large quantity of plastic lymph was spread all over the intestines, agglutinating them together, over the under surface of the diaphragm, liver, uterus, and appendages, and abdominal walls. In addition to this, there was a large quantity of fluid sufficient to fill the cavity of the pelvis. This fluid contained pus. The more solid lymph, examined under the microscope, was found to be corpuscular. In the left broad ligament was found a cyst about two inches in diameter in process of development. It was entirely unconnected with the Fallopian tube or ovary. The stump of the pedicle of the large tumor was covered with healthy granulations. The uterus was very much enlarged by the presence of a fibrous tumor in the right half and posterior portion of the organ. This tumor could very readily be separated from the uterine tissue proper. The microscopical examination of the inner wall of the cyst showed it covered with epithelium of small size and of round oval shape.

The case was interesting in reference to the scarcity of symptoms attending so severe an attack of peritonitis, and also as an illustration of the great danger of opening the peritoneum under the most favorable circumstances.

DR. SAYRE remarked, that when the smallest quantity of air had been admitted into the peritoneal cavity, he did not see the reason for shutting it up by closing the wound in the abdominal walls so accurately. He would advocate the practice of leaving part of the wound open, in order to give exit to any confined air, and any subsequent exudations that might form. In this connexion he referred to the case recently presented by Dr. Peaslee, where, after

\* Yellow fever existed at both Porto Cabello and Kingston last summer. A. N. B.

ovariotomy, it was rendered necessary, on account of the accumulation of pus in the cavity of the peritoneum, not only to give an exit to it, but for a long time to make use of a syringe. In this case, whenever there was an accumulation of matter, there were symptoms of typhoid fever manifest, which in time always subsided after an evacuation of the offending matter. Whenever the first symptoms of peritonitis showed themselves, he thought it expedient to open the wound, inasmuch as no more mischief could be done by the admission of any more air, but, on the contrary, there would be a free exit for effusions.

DR. SANDS considered such a plan of treatment a very dangerous one.

DR. KRACKOWIZER did not think that much air could enter the peritoneal cavity during an operation, inasmuch as the intestines had a tendency to float up to the opening and close it. He supposed that the danger of peritonitis was proportioned to the length of time the intestines were exposed to the action of the air during the operation, and not to any pent-up air in the cavity of the peritoneum itself. In Dr. Peaslee's case, if he recollected right, the typhoid symptoms came on a considerable time after the operation, and there were evidences of the presence of pus in the cavity.

The Society then adjourned.

## American Medical Times.

SATURDAY, SEPTEMBER 19, 1863.

### PROGRESS OF THE MEDICAL BUREAU.

THE report has for some time been current that a commission has been appointed to examine into the management of the medical department of the army. Pending this investigation the Surgeon-General has been ordered to a distant service, and, as is customary, has been relieved temporarily of duty in the Medical Bureau.

Meantime, it will not be uninteresting to review the progress of the Medical Department during the administration of SURGEON-GENERAL HAMMOND. The appointment of DR. HAMMOND as SURGEON-GENERAL was itself the first fruit of the reorganization of the medical department. The practice had become firmly established of selecting the senior member of the staff as the chief, when the place became vacant. But such vacancy rarely if ever occurred except by death, and hence it happened that the oldest members of the staff were always well advanced in years. The rebellion found the Surgeon-General's chair filled by an octogenarian, who had long been incapacitated by age. His successors must for all time necessarily have been men of sixty or upwards, unless an unusual mortality prevailed among the older members. There were senior surgeons who would have made experienced, active, and energetic officers. But this gigantic war found so many men of great age in important and responsible positions, requiring all the energy and endurance of middle life, that public opinion set strongly against the practice of allowing seniority to govern in the selection of heads of departments. Merit or special qualifications were strongly urged upon the authorities as the only safe rule in making such appointments. Influenced by this suggestion, the President selected Assistant-Surgeon HAMMOND for Surgeon-General, overlooking many capable senior surgeons who had labored faithfully in the public service for a life-

time. In every respect Dr. Hammond seemed eminently qualified for the position. Ten years of service in the staff had rendered him familiar with the detail of routine duties, and placed him in sympathy with the regular corps. Distinguished as a teacher in a prominent medical school, and with a world-wide reputation as a scientific medical writer, he was the best possible representative of the medical profession, and of the volunteer corps. To these were to be added ardent patriotism, the vigor of middle life, and powers of physical endurance equal to any necessary task. The appointment was generally received with unqualified favor.

On his accession to office the SURGEON-GENERAL at once set to work to give the greatest possible efficiency to the department. The field of its operations had gradually widened until it embraced a territory and detail hitherto unknown. The amount of labor thrown upon the Department at that moment was enormous. Immense armies scattered far and wide over the continent, and rapidly moving from point to point, were to be supplied with medical and hospital stores, and their hygienic condition to be constantly guarded. Sanguinary battles, occurring almost daily, required the utmost promptness and despatch to meet the great emergencies and supply the unavoidable waste of material. And, finally, a series of military hospitals was to be organized, and their management perfected on a scale hitherto entirely unknown in the history of war. To discharge the obligations which the war had imposed upon the department required not only rare executive abilities, and great energy in the chief officer, but it was of equal importance that administrative officers in every branch of the service should be honest, capable, and thoroughly qualified for the prompt dispatch of business. The internal changes in the staff necessary to effect these objects and put the machinery in proper working order, were effected with a bold hand, and necessarily created much ill feeling. Older surgeons, who had occupied prominent positions in time of peace, were succeeded by younger men, selected for their qualifications for special duties. Undoubtedly, in some of these changes, in a department so extensive, the right man was not always put in the right place, but of this there can be no doubt, viz. in his appointments to duty the SURGEON-GENERAL has aimed steadily to elevate the character of the Medical Staff of the Army, and to increase its efficiency.

In addition to the ordinary routine of the department the war imposed the necessity of creating a series of military hospitals. The selection of sites, the choice of architectural plans, the erection of the buildings, and the final appointment of all their internal arrangements, required skill and labor of a kind that, at that time, was scarcely attainable in this country. To this work the SURGEON-GENERAL gave much of his personal attention, and to his enlightened and persistent supervision the country is under lasting obligations. A system of military hospitals was gradually developed, extending along the Atlantic coast from Boston to New Orleans, and on the banks of the Mississippi and its tributaries, which is the admiration of every intelligent observer. Not only do they for the most part illustrate the latest improvements and suggestions of sanitary science in their construction, but in their management they are models of exactness in administration and of success in the treatment of disease. We believe this system of military hospitals, inaugurated and perfected by SURGEON-GENERAL

HAMMOND, will hereafter be referred to with just and honorable pride by the future historian of the war.

But passing by the general affairs of the department, we find that the SURGEON-GENERAL has been unceasing in his efforts to enlarge its usefulness, to elevate the professional character and tone of the staff, and to seize every opportunity to make the experience of the individual members subserve the cause of military medical and surgical science. Among his first acts was the reorganization of the Examining Boards, and raising the standard of qualification for admission to the regular and volunteer staffs. In this connexion we should mention the plan of an Army Medical School, to be located at Washington, which has been so far perfected as to have the first course of lectures arranged for this fall, and the lecturers selected. No rational and unprejudiced person can doubt that such a school, properly conducted, would give to the medical staff a much better qualified class of junior officers than can be obtained directly from the medical schools. The SURGEON-GENERAL followed the example of the British Government, which, after years of experience with scattered professorships, finally consolidated the several chairs, and formed the British Army Medical School.

The Army Medical Museum founded by SURGEON-GENERAL HAMMOND is an enterprise deserving of the highest praise. Already it begins to attract public as well as professional notice. It is now one of the richest collections in the world, illustrative of the surgery of war. The collection and preparation of materials for a future Medical and Surgical History of the War is another most important and meritorious undertaking. The materials for these volumes are very abundant, and of the most valuable kind. When completed, the history will illustrate the progress which the profession of the United States has made in military surgery. And we may add, no American surgeon need be ashamed of the record.

But we have not space to pursue this review further. The Medical Department of the U.S. army, in its efficiency, in the character of its officers, and in the detail of all its operations, surpasses that of any similar foreign organization. It has indeed received the most unqualified compliments from English army medical authorities. It has also the confidence of the general public to an extent rarely attained by the best medical organization. Of the circumstances which led to the appointment of this commission we are ignorant, but presume it is based on one of those idle rumors of fraud and corruption which are now so freely in circulation in regard to other departments of government. The result of this investigation is foreshadowed in the following paragraph from an influential and well informed daily journal, and we anticipate the early return of the SURGEON-GENERAL to the responsible duties of his office:—"It was admitted that Dr. Hammond had performed wonders in organizing and systematizing a medical bureau such as never before existed in this or any other country. It is true that the Secretary of War did, some six weeks ago, appoint a commission composed of Governor Reeder, Judge Hoard, and Major Barstow, to inquire into the condition and management of the Medical Bureau, and it had been whispered that in some particulars, not, however, affecting the efficiency of the Medical Department, censure to a slight degree might possibly be attached by this commission to the Surgeon-General or some of his subordinates; but everything adduced went to show that, so far as the

appropriation for the purpose would admit, the wants of the sick and wounded of our armies had been supplied with most commendable promptness and completeness, both in the field and in the hospitals."

### THE WEEK.

A FRENCH physician recently visited London, and on returning to Paris wrote an account of his visit. It is not surprising that he noticed particularly the English Hospitals, as contrasted with the French. He thus describes a London Hospital:

"The thing which first strikes one in these small Hospitals is the little appearance they make. No expensive plans have been adopted, and no architectural displays have been attempted, so that they look just like private houses—the English home or little fortress we have just been speaking about. But you no sooner cross the threshold than you recognise the comfort of these houses, the exterior having been evidently less regarded than the interior. Even within no luxury prevails, but everywhere the most exquisite cleanliness. Perfect ventilation is secured at a small cost by means of the large fireplace and the ease with which the windows may be lowered from the top at pleasure. The rooms contain from four to twelve small, simple beds, the floors and walls being kept very clean. On these latter, side by side with some pious texts, inculcating courage and resignation, are suspended coloured engravings, imitating water-colours, which are an eminently national taste, often representing country scenes upon which the patients may agreeably rest the eye, and cheer up their painful solitude. But above all, there are none of those sickly, sour, nauseous odours engendered by charpie impregnated with pus, the detention of cataplasms, the exhalations of privies, and the miasmata of large, ill-ventilated wards, which, even without seeing it, suffice in several of our large establishments to indicate the insalubrious air of a Hospital."

In the absence of the SURGEON-GENERAL the MEDICAL INSPECTOR-GENERAL JOSEPH K. BARNES is ACTING SURGEON-GENERAL. ASSISTANT-SURGEON JOSEPH R. SMITH, who formerly held this position, is now in the Western Department. A Washington correspondent thus speaks of the present ACTING SURGEON-GENERAL:—

"Medical Inspector Barnes is one of the very best officers in the service, who has had an experience of over twenty years in the army, having been greatly distinguished in the Florida and Mexican wars. He is one of the few army surgeons who have never allowed the laziness of camp life to interrupt their professional studies. He has kept *au courant* with the age, and is a gentleman acceptable in all senses."

SYPHILIS is a prevalent disease in the English army. A London contemporary says:—

"In the year 1859, no fewer than 422 men out of every 1000 were sent into Hospital suffering from syphilis and gonorrhoea, and 369 out of every 1000 in the following year. The ratio of admissions into Hospital per 1000 of mean strength of the Forces in the United Kingdom was—in the Dragoon Guards and Dragoons, in 1860, 356, in 1859, 402; in the Royal Artillery, 446 in the former year, 571 in the latter; in the Royal Engineers in the two years, 324 and 468 respectively; in the Military Train, 427 and 580; in the Foot Guards, 287 and 388; in the Infantry Regiments, 324 and 399."

We regret to notice that PROF. F. H. HAMILTON has resigned his position as Medical Inspector U.S.A. From very many sources we have learned that his labors in the Army of the Cumberland have been invaluable. The ser-

vice has far too few men of PROF. H.'s ability and devotion to duty, and the loss of such officers must be regarded as a public calamity. PROF. HAMILTON will take up his residence in New York city, and engage again in general practice.

## Reviews.

**GASTROTOMY.—LARGE ABDOMINAL-UTERINE TUMOR, EXTIRPATED BY JOHN O'REILLY, M.D., F.R.C.S.I.** [Reported by RICHARD J. HALTON, L.R.C.S.I.] New York: pp. 8. 1863.

THE subject of this operation was a married woman, about 55 years old, the mother of several children. The tumor first made its appearance seven years before, and so increased in size as to fill the abdomen; there was a good deal of emaciation, with oedema of the lower extremities. On examination, the tumor was found to be firmly fixed, but the parietes were movable slightly upon it. There was no evidence of fluctuation, but it was supposed, from its great elasticity before the operation, that it contained a number of cysts. As the patient was evidently sinking, Dr. O'Reilly determined to give her the chance of an operation. He prepared the patient by administering the night before the operation forty drops of laudanum to keep her bowels quiet and contracted during the operation. She slept well, and in the morning, just before the operation, her pulse was 144. The patient was brought under the influence of chloroform, and the following operation performed:—

"The first incision was carried from the umbilicus to the pubes, and the integuments, muscles, and peritoneum, being divided, the tumor was brought into view, and Dr. O'Reilly made an attempt to introduce a trocar, but without success: he tried in another spot with the like result. Indeed, from its feel, it was evidently solid; so he prolonged the incision almost to the ensiform cartilage, and now the parietes, contracted at each side, left the tumor exposed. It hid the viscera altogether, and when it came to be lifted out it was found to be attached to the uterus, or rather the uterus was attached to it behind, and the fallopian tubes embraced it on either side. The lateral ligaments were closely attached to it; in fact, they formed an all but complete investment, for they stretched out on it apparently as the tumor increased. There was a great deal of difficulty in finding the exact attachments of the tumor, but the principal ones appeared to be from the third to the fourth lumbar vertebra, and then extending along the sacro-iliac synchondrosis of the right side—how far down in the pelvis may be imagined when I mention the fact that I tied a vessel low down in the recto-uterine space: the attachments were partly torn through with the hand, partly cut. The principal vessel entered the tumor opposite the third lumbar vertebra, and was of considerable size; there were about six smaller ones: each was tied as it was divided; nevertheless, hæmorrhage from the numerous oozing-points was considerable. When the tumor was removed, the abdominal cavity (the lower part of it) was sponged out several times to remove the blood. The edges of the wound were brought together first by a deep metallic suture, twisted, embracing the soft parts external to the peritoneum; and by a common interrupted suture securing the integuments, sticking-plaster being applied in the intervals between the sutures; and finally a towel folded flat, a pad of tow, and a many-tailed bandage, completed the dressing, the two tails of the bandage being brought down under the thighs, up in front of the groin, and fastened there to guard against any slipping; and then the patient being thoroughly washed, and all traces of blood removed, was carried to bed."

It is stated that, "during the operation, all rules laid down in books on the subject were entirely disregarded. The window was kept open, admitting a free draught. The intestines were allowed to come out, and they were never touched until the operation being over, when they were all lifted in again." The tumor, described as "fatty fibro-cel-

lular, displayed on section two large lobes of fat, intersected with fibrous bands, large sinuses (venous), connected by cellular tissue; it presented very much the appearance of a cow's udder, and weighed over *thirty pounds*." The after treatment of the patient was with large doses of opium. She progressed favorably until the seventh day, when she imprudently took a large dose of cream of tartar (three ounces), which produced excessive purging, prostration, and death.

Dr. O'Reilly makes the following remarks upon the operation:—

"In performing the operation care should be taken not to stretch, lacerate, or injure the peritoneum by passing the pins or interrupted sutures through it. I must observe that the operators who employ the *clamp* cannot help *stretching* as well as *strangling* the peritoneum. Sir A. Cooper, in a case where he tied the neck of the sac of a hernia, with a view to obliterate it and effect a radical cure of the hernia, was obliged to *untie* the ligature in consequence of the vomiting that ensued; it follows, therefore, that strangulation of any part of the peritoneum must be attended with bad consequences, as it induces mortification of the part implicated. Fine silk ligatures should be used in tying the vessels, and good care should be taken to *dissect* the peritoneum from the vessels before the ligatures are applied."

## Correspondence.

### CIRCULAR No. 6.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—In no communication on the subject of the Surgeon-General's order, "excluding calomel and tartar emetic from the Supply Table," have I seen the results of any inquiries into the state of the sick in the army with reference to the abuse of these remedies; and I have thought it due to the profession in our country, and particularly to those glorious men of our profession in the army, to present the result of observations in the west and south-west, as obtained by the medical men here.

In the military hospitals of this city and vicinity we can give you positive data.

In 25,000 patients but nine cases of ptyalism have been seen; not a case of mercurial gangrene. In regard to other points, one can only make general statements, but founded on the best sources of information.

From Louisville, Western Virginia, the army of the Cumberland and Gen. Grant's army, the same relative statements are made. One of the most eminent medical gentlemen in Indiana told me that he had seen, some two months since, over 4000 patients in the hospitals of Memphis, Helena, Milliken's Bend, and Young's Point before Vicksburg, and not six cases of ptyalism. He saw a larger amount of scurvy, and it is this, doubtless, which the "political doctor" army inspectors have mistaken for mercurial stomatitis.

There are gentlemen here who have made extensive observations in eastern hospitals, and in those of the army of the Potomac as sanitary inspectors, who all concur in stating that they have seen no evidences whatever of the abuse of the condemned remedies.

The Surgeon-General states that *innumerable* cases of mercurial salivation and frequent cases of gangrene have been brought to his attention, and which has led him to strike the said articles from the "Supply Table."

It is due to science, it is due to the character of our profession, that he should publish the authors of those false statements, who have abused his confidence and attempted to degrade the American medical profession in the eyes of the world. This is another item, and alas that it has had such eminent authorization, upon which our enemies in Europe will seize, to prove that the state of medical science here is also an indication of a low civilization.

The medical men at home must stand by those who have made such sacrifices to go to the war; "they follow in the battle-field through the thickest of the fire, not to aid destruction in her work, but that they may staunch the wounds she makes," and they will scarcely be thought of in the triumph which the nation will offer to its successful warriors. Let us at least take care of their reputation so far as we are able. They feel this storm upon their reputation as intelligent men and readers of "modern pathology."

It is in proof here, that the Surgeon-General proclaimed himself against these remedies some years since, and it is therefore inferred that his order is more the result of a foregone conclusion than of official information.

If this is so, how improper is his course recently in attempting a series of ex-parte questions to obtain an approval of his order. Let me remind him of a line in Horace:—*Male verum examinat omnis corruptus iudex.*

CINCINNATI, August 1, 1868.

C. G. C.

### HOMŒOPATHIC FRAUD.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—I can heartily endorse your editorial remarks in your Journal of September 5th, regarding the surreptitious and fraudulent administration of the alkaloids and other powerful medicines by homœopathic practitioners. In proof of this charge, I may state that I have in my possession a homœopathic case of medicines, lately found by a friend in one of the streets of New York, and recently belonging to one of the leading practitioners in that line of quackery. One side of the case is filled with small phials containing powders, the other with tinctures. The phials are chiefly labelled with narrow strips of printed paper pasted around them, while a considerable number (not homœopathic) have the names of the medicines on the corks. The phials are all of the same size and appearance. Taking them in order, the labels read, "*platina*," "*hepar sulph.*," "*ferrum met.*," "*hyd. sub.*," "*graphitis*," "*magnesia carb.*," "*natrum mur.*," "*morphea*," "*cuprum met.*," "*spongia*," "*phosphorus*," "*sulphur*," "*strychnia*." I need not go through the entire list. But I find in the case all the powerful vegetable alkaloids, also calomel, antimony, arsenic, etc., distributed carefully among the other medicines, while among the bottles are found most of the saturated tinctures, as veratrum, aconite, opium, etc. No person looking at the contents of this case would suspect for a moment that it contained any other than homœopathic preparations.

Satisfied, as I long have been, that homœopathy and its practice only existed by fraud and deception, I have felt it a duty to treat its practitioners in all cases accordingly. And if this were generally done by the profession (for no one would accuse us of acting unjustly or uncharitably by so doing, for "by their fruits shall ye know them"), I believe the imposture would soon disappear, as it has, generally, in Europe, and in Germany especially. MEDICUS.

NEW YORK, Sept. 9, 1868.

## Army Medical Intelligence.

### ORDERS, CHANGES, &c.

Acting Surgeon-General Joseph R. Smith, U.S.A., for the last fourteen months chief executive officer in the Surgeon-General's bureau, has been relieved and assigned to duty at St. Louis, Mo.

Medical Inspector-General Joseph K. Barnes, U.S.A., has been assigned to duty as Acting Surgeon-General during the absence of Dr. Hammond, in conformity with the Act of Congress, approved July 4, 1866.

Assistant-Surgeons William Watson, Richard D. Lynde, William Grinstead, John H. Currey, and Nathan P. Rice, have been promoted Surgeons of Volunteers, to date September 2, 1868.

Drs. S. A. Holman, of Maine, Charles S. Wood, of New York, Samuel Kneeland, of Massachusetts, William S. Ely, of New York, M. K. Hogan, of the District of Columbia, Enoch Pearce, of Maryland, Henry Clay Roberts, of Pennsylvania, Henry S. W. Burritt, of Connecticut, and Calvin C. Chaffee, of Massachusetts, have been appointed Assistant-Surgeons of Volunteers, to date from September 2, 1868.

Dr. Rudolph Taurzky, of the District of Columbia, Henry W. Willoughby, of New Hampshire, Henry M. Dean, of Connecticut, Alonzo Boothby, of Maine, and Calvin P. Marshall, of Delaware, have been appointed Assistant-Surgeons of U.S. colored troops.

Drs. D. D. Hansas and Rudolph Taurzky have declined appointments as Assistant-Surgeons U.S. colored troops.

Surgeon Charles H. Crane, U.S.A., has been assigned to duty in the office of the Surgeon-General.

Medical Inspector John M. Cuyler, U.S.A., has been ordered to assume control of the Medical Inspector-General's Department.

Surgeon Frank Meacham, U.S.V., has been assigned to duty in charge of General Hospital No. 2, Louisville, Ky.

Surgeon A. M. Speer, U.S.V., has been assigned to the charge of General Hospital, Main street, Covington, Ky.

Surgeon B. B. Breed, U.S.V., is on leave of absence at Lynn, Mass.

Leave of absence for thirty days has been granted to Assistant-Surgeon S. G. Wilson, on surgeon's certificate of disability.

Surgeon Thomas H. Bache, U.S.V., has been ordered to the city of Washington, to relieve Surgeon M. Clymer, U.S.V., as Attending Surgeon to sick and wounded volunteer officers, and as President of the Examining Board for Assistant-Surgeons of Volunteers.

Surgeon J. G. Hatchitt, U.S.V., has been assigned to duty as Surgeon-in-Chief, 9d Division, 82d Army Corps.

Surgeon R. L. Stanford, U.S.A., has been relieved from duty in General Hospital No. 12, and assigned to charge of General Hospital No. 7.

Surgeon David J. McKibbin, U.S.V., has been assigned to duty in charge of General Field-Hospital, Stevenson, Ala.

Surgeon Paul B. Goddard, U.S.V., is sick at Philadelphia, Pa.

Assistant-Surgeon G. A. Wheeler, U.S.V., convalescent from typhoid fever, is on thirty days' leave at Topsham, Me.

Surgeon R. H. Gilbert, U.S.V., is on thirty days' sick leave at Elizabeth, N. J.

Leave of absence for twenty days on surgeon's certificate has been granted to Assistant-Surgeon M. L. Rowland, 118th Pennsylvania Vols.

The appointment of William Forbes as Assistant-Surgeon 15th Ohio Vols., has been revoked, there being no evidence of service rendered the Government.

Surgeon S. S. Mulford, U.S.V., has been ordered to proceed without delay to Hilton Head, S. C., and report in person for duty to Surgeon H. E. Wirtz, U.S.A., Medical Director, Department of the South.

Dr. G. Stegman, of Missouri, has been appointed Surgeon of 6th U.S. colored troops. Dr. W. A. McCully, of Ohio, Surgeon 3d U.S. colored troops, and J. E. Weist, of Ohio, Surgeon 1st Regiment U.S. colored troops.

Assistant-Surgeons S. A. Holman, Charles S. Wood, Samuel Kneeland, M. K. Hogan, and Enoch Pearce, have been appointed Surgeons U.S. Volunteers.

Drs. M. H. Salisbury, of Ohio, Jabez Perkins, of Michigan, Gerhard Saal, of Ohio, W. C. Daniels, of Ohio, John C. Norton, of Illinois, and Robert McGowan, of Tennessee, have been appointed Assistant-Surgeons of Volunteers.

The following assignments to duty of Medical Officers, have been made:—

Assistant-Surgeons S. A. Holman and Enoch Pearce, U.S.V., to report to Major-General Meade, commanding Army of the Potomac.

Assistant-Surgeon Charles S. Wood, U.S.V., to report to Major-General Wright, commanding Department of the Pacific.

Assistant-Surgeon Samuel Kneeland, U.S.V., to report to Major-General Banks, commanding Department of the Gulf.

Assistant-Surgeons Wm. S. Ely, H. C. Roberts, and C. C. Chaffee, U.S.V., to report to Major-General Foster, commanding Department of Virginia and North Carolina.

Assistant-Surgeon M. K. Hogan, U.S.V., to report to the Medical Director at Washington, D.C., for duty with Battalion 1st, District of Columbia Vols., commanded by Colonel Baker.

Assistant-Surgeons H. L. W. Burritt, Gerhard Saal, and Robert McGowan, U.S.V., to report to Major-General Burnside, commanding Department of the Ohio, and by letter to Assistant Surgeon-General Wood, at St. Louis, Mo.

Assistant-Surgeons M. H. Salisbury and J. C. Norton, U.S.V., recently appointed to report to Major-General Rosecrans, commanding Department of the Cumberland, and by letter to Assistant Surgeon-General R. C. Wood, at St. Louis, Mo.

Assistant-Surgeon Jabez Perkins and W. C. Daniels, U.S.V., to report in person to Major-General Grant, commanding Department of the Tennessee, and by letter to Assistant Surgeon-General Wood, at St. Louis.

On the expiration of his sick leave, Surgeon Thomas B. Reed, U.S.V., will report for duty to the Medical Director, Department of the Gulf.

Surgeon Pascal A. Quinan, 150th Pennsylvania Vols., is relieved from duty at Camp William, Penn., Chelton Hills, Philadelphia, Penn., and will proceed without delay to join his regiment in the field.

Leave of absence has been granted for thirty days to Acting Assistant-Surgeon A. Van Cleef, U.S.A., provided he furnishes an acceptable substitute.

Leave of absence heretofore granted to Acting Assistant-Surgeon R. E. Price, has been revoked.

Assistant-Surgeon Horace Babcock, 2d Wisconsin Vols., has been discharged the service of the United States, on account of physical disability, and for absence without leave as reported by the rolls of his regiment.

Assistant-Surgeon Gustave Jacobi, 52d New York Vols., has been honorably discharged the service of the United States, on account of physical disability, upon condition that he shall receive no final payments until he has satisfied the Pay Department he is not indebted to the Government.

Leave of absence for fifteen days has been granted to Assistant-Surgeon J. D. Watson, 8d Maine.

Assistant-Surgeon John D. Johnson, U.S.V., has been relieved from duty in the Middle Department, and ordered to report in person to Major-General W. S. Rosecrans, commanding Department of the Cumberland, and by letter to the Assistant Surgeon-General at St. Louis, Mo.

Leave of absence has been granted on surgeon's certificate of disability to Assistant-Surgeon A. D. Andrews, 6th Wisconsin Vols., and Assistant-Surgeon J. H. Hassenpflug, 104th Pennsylvania Vols., for twenty days each, and to Assistant-Surgeon G. L. Porter, U.S.A., for ten days.

## Original Lectures.

### CYANOSIS.

By J. LEWIS SMITH, M.D.,

PHYSICIAN TO THE ORPHAN HOME AND ASYLUM, LECTURER IN THE UNIVERSITY MED. COLLEGE.

[Being a Paper read before the N. Y. Academy of Medicine, February 18 and March 4, 1868.]

#### PART III.

In fifty-eight cases there was an inter-auricular opening, usually the foramen ovale, sometimes enlarged. This opening was ordinarily larger in those cases in which the septum ventriculorum was complete. In fourteen patients the septum between the auricles was entire, in the remaining twenty-five its condition was not recorded.

The ductus arteriosus was absent in eight cases, actually or virtually closed in twenty, open in twenty-four, and its condition not recorded in the remaining forty-five. In those specimens in which the pulmonary artery was rudimentary, the arterial duct often resembled more a branch of the aorta dividing into two pulmonary branches than it did a connecting vessel. In some patients the ductus arteriosus was found in an unusual situation, and this may occasionally have been true in specimens in which it was believed to be absent. In No. 77 it arose from the left subclavian. In Ramsbotham's case (No. 69) there was no ductus arteriosus, but pulmonary branches were found arising separately from the arch of the aorta. In the other specimens in which no arterial duct was found, nothing is stated in reference to the pulmonary branches.

In all the cases there was a communication between the systemic and pulmonary circulatory systems, either by an opening in the inter-auricular or inter-ventricular septum or by the ductus arteriosus. Frequently, two of these communications, and sometimes all three, were present in the same individual. This fact is interesting, as it has an important bearing on the prevailing theories in explanation of cyanosis.

In this malformation it is evident a larger amount of blood than usual enters the aorta, and this vessel consequently becomes enlarged. In those cases in which the inter-ventricular septum is incomplete, the aortic orifice is usually directly over the aperture, so as to receive blood from both ventricles. Occasionally, it is mainly to the left or even to the right of the septum. The semilunar valves of the aorta are commonly enlarged in proportion to the size of the vessel, but in one specimen there were only two valves (No. 43).

From the increased burden thrown on the right side of the heart, the right auricle and ventricle, obeying the common law of muscular development, become hypertrophied. The walls of the right ventricle become so thick as to resemble the left ventricle, and the latter, not receiving the usual amount of blood from the left auricle, does not attain the size or thickness which it presents in the normal heart. On this account it often seems as if the two sides of the heart were transposed. The right ventricle lies more in front than usual, and it forms the apex of the heart.

We have postponed the consideration of the signs observed during life on examining the chest in each kind of malformation, till the malformation was first described, as they can be then best understood. We have already spoken of the frequency of the pulse and respiration, and occasional intermittence of the former. The signs of an abnormal heart were, in a few instances in the above cases, absent or feebly manifest, if the patient were quiet. No evidence, or but slight evidence, of the malformation existed either on palpation, percussion, or auscultation. Commonly, however, there were well marked signs; usually, the systole of the ventricles was stronger than in the normal heart, and often the hands placed on the præcordial

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region experienced a thrill or vibratory sensation. In many, probably most patients, a murmur or murmurs accompanied the sounds of the heart, and in order to understand the character of this sign the following descriptions will be quoted:—

Case 11.—“A pretty loud murmur attended the systole of the ventricles, but it was not heard over the aorta or pulmonary artery.”

Case 34.—“Contraction of the right ventricle louder than usual, and accompanied by a *bruit de soufflet* action of the left ventricle, much embarrassed, feeble in its contraction, and emitting a peculiar flapping noise.” This patient was treated in Guy's Hospital, and was examined by Messrs. Addison and Key, who diagnosticated imperfect septum ventriculorum.

Case 35.—“A strong murmur was noticed between the third and fourth ribs, which seemed to extend upwards, and was accompanied by a tremulous sensation.”

Case 39.—“A systolic murmur audible over the surface of the heart generally, with its maximum intensity at the base, and extending in the direction of the left costal cartilages.”

Case 42.—“Impulse of the heart felt over a large portion of the front of the chest, and attended by a loud murmur audible over the whole of the dull space; dull space extended from the third rib transversely from the right side of the sternum to beyond the line of the left nipple. Murmur most intense immediately below and within the line of the left nipple, and there the second sound was masked by it; was also heard very loudly between the sternum and nipple, and thence towards the middle of the left clavicle; at the top of the sternum it was less distinct, and of shorter duration, so that it was followed by a clear second sound. To the right of the lower part of the sternum there was heard first an imperfect systolic sound, and this was followed by or lapsed into a short murmur, which again was succeeded by a clear diastolic sound.”

Case 44.—“On listening over the third cartilage between the nipple and sternum, a soft blowing murmur was heard very distinctly. It was audible, though less intensely, over the whole præcordia, and in a line towards the middle of the left clavicle. It was also distinctly heard to the right of the upper part of the sternum. \* \* The heart's sounds were heard in the left dorsal region, but the murmur was not there audible.”

Case 54.—“Two bruits were heard in the præcordial region. One of them resembled the *fremissement cataire*, and was heard during the systole of the heart. The other, which appeared to be produced by the contraction of the auricles of the heart, was so clear and loud as to be heard over the whole entire right side of the chest; on the left side it was scarcely perceptible.”

Case 60.—“When quiet, the heart's sounds were distinct and free from murmur, but when disturbed, a loud systolic murmur was heard over the whole anterior part of the chest most intensely at the middle and upper part of the sternum.”

Case 61.—“A single murmur was heard with the first sound of the heart, most distinct at the apex, present at the base, most feeble in the left infra-clavicular region, most distinct in the right one; the murmur was heard in both infra-scapular regions, but most distinctly in the left.”

Case 66.—“A very loud, whizzing, and prolonged murmur accompanied the systole of the heart, and was of maximum intensity at the inferior border of the third left costal cartilage, close to the sternum. From thence it could be traced up the bone for two inches, when it became inaudible. Over the base of the heart it completely masked the first sound. It could not be detected under the clavicle or in the vessels of the neck.”

Case 70.—“A loud bellows sound with the systole of the heart, heard most distinctly on a level with the upper margin of the third rib, was heard louder under the right clavicle and not under the left; another bellows sound at



the ensiform cartilage with the first beat; another feebler systolic sound at the apex decreasing higher up the ventricle."

Case 71.—"Had a constant, strong, rasping bruit, accompanying the first sound of the heart, and partially masking it."

Case 87.—"A rough rasping, or sawing murmur, considerably prolonged, accompanied the first sound. This was heard most distinctly on the right side of the sternum, immediately between the third and fourth ribs."

Case 94.—"A very loud, superficial, hissing, bellows murmur was heard in the præcordial region, synchronous with the first sound of the heart. The diastolic sound was healthy or nearly so."

The thrill or vibration which accompanies the action of the heart in these cases, and is communicated to the hand placed over it, is, in the opinion of Dr. Stokes (*Diseases of the Heart and Aorta*, page 67), produced by the flow of blood through the apertures from the right to the left side of the heart.

It is evident that the same murmur, or rather a murmur produced in the same manner, is described in all these cases, while in some, other murmurs were also present. This murmur is variously described in the records, as hissing, rasping, sawing, flapping, whizzing, and soft blowing. Indeed, the character of the sound appears to have been very different in different patients, but there was usually an agreement in certain particulars. It accompanied the systole of the ventricles, and was commonly most distinct over the base of the heart, but in No. 61, it was loudest at the apex. A writer in the *London Medical Times and Gazette*, Sept. 10, 1859, referring to what he calls the "basic systolic murmur" in cyanosis, says, "In the great majority of cases it is due, no doubt, to obstruction seated at the pulmonary orifice," and he attempts to show that it is not produced by the flow of blood through the patent foramen ovale. But in No. 11 of the above cases the pulmonary artery was completely closed, so that the murmur could not have been produced in it, and it is therefore probable that it is caused by the flow of blood through the aperture inter-auricular, or inter-ventricular, or both.

The apertures in the inter-auricular and inter-ventricular septa are obviously due to the effect on the circulation, during foetal life, of the absence or malformation of the pulmonary artery. The blood, being arrested in the right ventricle, escapes at each ventricular systole to the opposite side of the heart, thus preventing the complete formation of the septa.

#### SECOND MALFORMATION.

##### *Right Auriculo-Ventricular Orifice Impervious or Contracted.*

Case 98, M., 21 years.	Case 101, M., 8 years.
" 99, 8 mos.	" 102, M., 4½ years.
" 100, F., 17 mos.	

In the first four of these cases the tricuspid orifice was closed; in the remaining case, it was open, but much contracted. In all, the foramen ovale was patulous, and an aperture existed in the inter-ventricular septum. The venous blood, on reaching the heart by the cavae, mainly flowed into the left auricle, thence into the left ventricle, from which a part passed into the aorta, and the remainder into the right ventricle to the pulmonary artery. In this malformation there is evidently a very thorough admixture of venous and arterial blood. Dr. Peacock also describes the case of a cyanotic child, seven months old, in whom he states this malformation was present; but as the measurements show that the right auriculo-ventricular aperture was larger than that on the left side, and larger than the pulmonary orifice, it seems to me there must have been some other cause of the cyanosis, and this case is therefore placed in the list of uncertain malformations.

The state of the right auricle is mentioned in three of the above cases, in all which its cavity was enlarged; that of the left auricle is mentioned in two cases, in the one enlarged, in the other of natural size; that of the left ven-

tricle is mentioned in three cases, in all hypertrophied; that of the right ventricle is mentioned in all but one, and in these its cavity was very small, nearly obliterated, but its parietes were of considerable thickness; the state of the ductus arteriosus is recorded in one case only, and in this it was closed.

Nothing is said in any of these cases of a thrill or vibration produced by the action of the heart, and in one only is mention made of a murmur; this was loud, and heard below the left nipple. It is interesting to observe how long life may be prolonged with so serious a malformation: one patient lived eight, and another twenty-one years.

#### THIRD MALFORMATION.

##### *Orifice of the Pulmonary Artery, and the Right Auriculo-Ventricular Aperture Impervious or Contracted.*

Case 103, 15 mos.	Case 106, M., 10 yrs.
" 104, 7 wks.	" 107, M., 15 yrs.
" 105, F., 57 yrs.	" 108, F., 25 yrs.

This malformation consists of the first and second combined. The auricles and the left ventricle are well developed, but the cavity of the right ventricle is small, sometimes almost rudimentary, though its walls are thick and firm. In all of the above cases there was an opening in the inter-auricular septum; in one the pulmonary artery was represented by an impervious cord, and in the remaining five the obstruction in this vessel was produced by adhesion of its valves, between which was a small opening. The ductus arteriosus was closed in three cases, open in one, and in two its condition is not recorded. In three cases there was an aperture in the inter-ventricular septum, while in the remaining three, no mention is made of the septum. In all, the tricuspid orifice was pervious but contracted, and in one, the tricuspid valves were united.

In only one case in this malformation is any mention made of a bruit. In No. 106 it is stated that "an intense cardiac bruit was audible between the shoulders." In No. 105 the thrill or vibration was observed, and in No. 107 the sensation communicated to the hand was like that in hydrops pericardii.

#### FOURTH MALFORMATION.

##### *Right Ventricle Divided into Two Cavities by a Supernumerary Septum.*

Case 109, M., 15 yrs.	Case 115, M., 10 yrs.
" 110, F., 38 yrs.	" 116, F., 20 yrs.
" 111, F., 5 yrs.	" 117, M., 19½ yrs.
" 112, F., 11 yrs.	" 118, F., 20 yrs.
" 113, F., 9 yrs.	" 119, M., 2 yrs. 5 mos.
" 114, F., 5 yrs.	

The supernumerary septum in this malformation is in the infundibular portion of the ventricle, sometimes not far from the orifice of the pulmonary artery; in other specimens, at the distance of an inch or more. It is muscular, and contains a central aperture. In No. 112 the aperture was only sufficient to admit a probe. In No. 111 the septum had undergone the fibro-cartilaginous degeneration on the auricular side. In No. 110 the septum is stated to have been formed of decussating and hypertrophied fibres, and in one specimen the right ventricle was divided into more than two chambers by enlargement of the tricuspid valves (No. 114).

In six of the eleven cases in this malformation the pulmonary artery was small or contracted at its orifice; in two this vessel was natural; in one its size was greater than that of the aorta, and it was furnished with four valves; in the remaining two cases nothing is said in reference to it, but in one of these last its orifice was probably small, as it was furnished with only two valves. In two of the contracted arteries there were also only two valves, and in one no valves at all.

DR. E. LEE JONES has been appointed physician for the treatment of officers of the army in New York City, in place of DR. HAMMOND, Surgeon U. S. Army, detailed to temporary duty at Charleston.

## Original Communications.

### BAYONET WOUNDS, WITH CASES.

By JOHN A. LIDELL, SURG. U.S.V.,

IN CHARGE OF STANTON HOSPITAL, WASHINGTON, D.C.

GUTHRIE says, "a great delusion is cherished in Great Britain on the subject of the bayonet—a sort of monomania very gratifying to the national vanity, but not quite in accordance with matter of fact. Opposing regiments, when formed in line and charging with fixed bayonets, never meet and struggle hand to hand and foot to foot, and this for the very best possible reason, that one side turns round and runs away as soon as the other comes close enough to do mischief." A similar delusion is widely spread in this country. The truth is, that wounds inflicted by the bayonet have been of comparatively rare occurrence in every war that has scourged the earth since the invention of that weapon. And the war in which our Government is now engaged for the preservation of its existence is not an exception to this rule.

In all, *three cases of bayonet wounds* have come under my notice since the war began. One case was that of a soldier belonging to the 106th Regt. Penn. Vols., who was wounded in the upper part of the thigh with a sabre bayonet, during a skirmish of pickets with the enemy, a few days after the battle of Fair Oaks. The femoral artery was divided, and he died of hemorrhage before assistance could reach him. It is probable, however, that he was wounded accidentally by a comrade and not by the enemy. The other two cases are herewith reported.

*I. Bayonet Wound of Right Thorax.*—Corporal Thomas, Co. "G," 2d U. S. Infantry, aged 40, constitution sound, was stabbed by a bayonet in the hands of a refractory prisoner, Dec. 2d, 1862.

Bayonet entered one-half inch to the right of the median line of the chest, immediately next to the middle of the xiphoid cartilage, penetrating four inches in a direction downwards and outwards, entering the chest over the costal cartilages of the eighth, ninth, and tenth ribs. The surgeon who saw him at that time says that, "on receipt of injury, prostration, vomiting for two days, difficulty of breathing, incapacity of drawing a long breath, total absence of movement of ribs of lower part of the right chest, decubitus on injured side, no spitting of blood, no blood from external wound, no respiration heard on lower part of right chest, puerile respiration above and over the whole of the left chest, mixed however in some parts of the left chest with mucous sounds of bronchitis; gentle stimulants and essence of beef for first day and no drugs; from second to fifth essence of beef only; sixth and seventh day rice, tea-soaked biscuit and essence of beef.

Second physical examination on Dec. 5th: Lower part of left chest dull, beginning to hear sub-mucous rhonchus and small crepitation. Cough less, altogether better, an evacuation without medicine. Vomiting ceased. Dec. 7th: sat near fire twice during the day for half an hour each time. Dec. 8th: third physical examination: lower ribs of right side begin to move in act of breathing, breathes easier, less pain, moist sounds heard over a larger space, do not find small crepitation, no bronchial respiration and voice, upper part of right lung not so labored in respiration; sleeps better; coughs but seldom, no sputa, no fever; sits by the fire for an hour at a time." The foregoing history is copied from the account of his case sent forward with the patient by the surgeon who first treated him.

He was admitted to Stanton Hospital, Dec. 11th, 1862. At that time the wound was closed and the orifice of it covered over by a small dark colored triangular-shaped scab. He complained much of darting pains and stitches in the right side. He exhibited dyspnoea and increased frequency of the respiratory movements, together with

"catches" in his breathing. At times the dyspnoea was so great as to compel him to sit up in bed; decubitus on the injured side. The physical exploration showed that there was a moderate amount of effusion in the cavity of the right pleura, with friction sounds ("to and fro" sound) higher up on the same side.

He was directed to keep quiet in bed, to be supported by a nourishing diet, to take fluid extract of cinchona combined with iodide of potassium, and, with a view to still further promote absorption and combat the traumatic pleurisy, to have a succession of blisters applied to his right chest.

About Christmas he had a severe exacerbation of all his symptoms, which was combated by the application of cups, both wet and dry; and again a fresh pleurisy was lighted up in the early part of January, 1863, which was combated in the same way. We now began to suspect that the effusion was purulent (more or less) in character. He did not exhibit hectic fever. Under the tonic and supporting plan of treatment he slowly mended in spite of the relapses, and by the 25th of January he was able to be up most of the time. He was put upon the use of quinine and iron instead of potass. iodid. and cinchona, about this time. He continued to slowly improve, and was discharged from the service on surgeon's certificate of disability, at his own request, February 2d, 1863. He was still very feeble and wan. He still had dyspnoea, and percussion showed that the pleuritic effusion, although diminished in quantity, still remained, but the dyspnoea appeared to be much greater than could be accounted for satisfactorily by the amount of the effusion. We have received no tidings from him since he left the hospital. He will probably succumb sooner or later to the chronic traumatic pleurisy, exhausted after repeated exacerbations of the same.

*II. Bayonet Wound of Left Thigh.*—Sergt. J. T. C., Co. H, 105 Regt. N.Y. Vols., was wounded at the last battle of Bull Run by a bayonet in the hands of an enemy: command was advancing in line of battle in the woods near the railroad, when the enemy charged unexpectedly, and the command was forced to fall back.

The bayonet entered the front of the left thigh in Scarpa's space, about three and a half inches below Poupart's ligament, and passed directly backwards close to the femoral artery: patient thinks the bayonet struck the femur: wound did well and healed without any difficulty in about six weeks, patient remaining with his command all the while.

On examination, January 15th, 1863, I find a small cicatrix, triangular in shape, on the front of the left thigh, about three and a half inches below Poupart's ligament, and lying directly over the femoral artery: and palpation detects considerable consolidation of the parts underneath, such as we would expect to follow the healing process of a bayonet wound extending to a considerable depth into the thigh.

WASHINGTON, D.C. Sept. 18th, 1868.

### PYÆMIA OR LEUKÆMIA.

By GEO. R. WEEKS, SURG. U.S.V.,

IN CHARGE OF U.S. GENERAL HOSPITAL, MEMPHIS, TENN.

HAVING recently been much interested in the various pathological conditions resulting in pyæmia, leukæmia, or leucocythemia, and believing that I have observed some facts of interest in this disease, I submit the following observations taken at the bedside, and with a view of establishing the true nature and conditions found in those affected by this particular grade of action. If I can be able to contribute in the least to this end, I shall feel myself amply rewarded. I believe it closely allied to hospital gangrene, and it generally has appeared to be the sequence of this disease.

The ideas that I shall present were taken in the observa-

tion and treatment of cases of gangrene, in all 175. 115 of these were observed and reported on at Louisville, Ky., 6 occurred in 17th Army Corps Hospital at Vicksburg, Miss., and 54 at this hospital during the month of August, and with what result will be shown in the following summaries:—

SUMMARY OF CASES TREATED BY BROMINE LOCALLY, AND THEIR RESULT.

No. treated,	146
Recovered,	134
Died,	12
Died of Gangrene,	0
" Pyæmia,	3
" Thrombus and sepsis of the blood,	5
" Mechanical pneumonia,	2
" Cellulitis,	1
" Diarrhoea,	1
Flesh wounds,	104
" bone involved,	42
Average time of arrest,	4.26

SUMMARY OF CASES TREATED WITHOUT BROMINE, AND THEIR RESULT.

No. treated,	29
Recovered,	20
Died,	9
Died of Gangrene,	4
" Pyæmia,	3
" Thrombus and sepsis of the blood,	1
" Mechanical pneumonia,	1
" Cellulitis,	0
" Diarrhoea,	0
Flesh wounds,	24
" bone involved,	5
Average time of arrest,	18.8

Fifty-three of these were treated locally by pure bromine, average time of arrest being 1.92 days, seldom requiring the second application. Ninety-three were treated by comp. sol. of bromine, average time being 8.66 days; and in those treated by the usual methods, the average was 18.8 days. Both had the same constitutional treatment, and were alike situated in other respects.

All the facts noticed during the management of these cases point to the following views in regard to its pathology:—That hospital gangrene is produced by a *specific animal poison*, and that it only enters the system by inoculation upon a traumatic surface. That for a variable time after it is deposited upon or in the sore it is local in character; after which time it enters the blood through the absorbent system, and changes its constituents both vitally and chemically. I have designated this the stage of toxæmia, and this morphologically changes the blood; the result is thrombus, which in my opinion is the plastic portion aggregated and semi-organized, necessarily rendering the remainder aplastic and of little use to the economy in the work of repair. I have many morbid specimens now in my possession that clearly substantiate the truth of these different stages. In illustration of which allow me to cite a few cases.

I.—Adam Brangle, Priv. 1st U.S. Inf., was brought to the 17th A. C. Hosp., of which I had charge, with gangrene of the right arm, which had been amputated previous to his admission some time. Upon auscultation, I diagnosed mechanical pneumonia of the right lung; he complained of pain in the heart and over the lower lobe of the right lung, which gave a flat sound, and with entire loss of vesicular resonance; *no crepitus was heard in the part or above it*. I treated the arm locally with pure bromine, which arrested the gangrene promptly, and the sore continued to granulate till near death, but the pulmonary difficulty continued upwards until the entire right lung was involved, and half of the left, when he died. I examined him carefully, and noted his symptoms three times a day myself as long as he was under my care.

*Autopsy, twelve hours after death.*—The right lung was very much enlarged and heavy; it readily sank in water; so large that it filled the right side of the thorax entirely; upon section, it presented innumerable dark-colored points of all sizes, which were followed back to where they could be unmistakably seen to be in the pulmonary artery. I hazard little by saying that very nearly all the vessels in the right lung were occluded by thrombi, also a portion of the left, and in none of them were there any signs of a *retrograde movement, or softening*. This was a rapid case, and one that finely illustrates the mode of dying, which was undoubtedly obstruction of a purely *mechanical nature*, so far as the lungs were concerned, producing an excess of carbonic acid in the blood, and deficiency of oxygen from pressure on the vessels and obliteration of air-space. This is the first stage, or one *necessary link* in the pyæmic process.

II.—James A. Beaver, Priv. Co. A, 33d Iowa Inf. Vols., was admitted to this hospital July 30, 1863, with gangrene of the ankle, involving the instep and ankle-joint. I examined him Aug. 8th, and diagnosed thrombus and septic poisoning, and made an unfavorable prognosis. This was the first day after being assigned. Gangrene was existing since July 17th, which was arrested by the use of bromine locally Aug. 12th, but no repair was established. The wound kept clean, and had no fætor. He died Aug. 18th.

*Autopsy ten hours after death.*—Lungs filled with a dark-colored semifluid substance in the vessels, and at points portions of unsoftened thrombi yet remained; in some of the larger vessels it was still entire; at some points where the pressure was greatest, softening had commenced in the parenchyma, always most advanced in the part nearest the vessel. I found a large thrombus in the left side of the heart, more than half of it softened, and softening the walls of the heart with which it was in contact, looked of a purple color, had a *gangrenous odor*, and was easily broken down between the thumb and finger, upon moderate pressure. I take it that this case points to the transition state from thrombus to true pyæmia, and marks the process quite clearly. Death perhaps was brought about by Ichoræmia, depraved or perverted nutrition, caused by the septic condition of the blood, whose morbid element was indebted to softened thrombi, and whose product returned to the general circulation, rendering it more poisonous.

3rd. J. S. H. Sutton, Priv. Co. I, 36th Ind. Inf. Vols., passed through both the above mentioned stages, and died from the next, or true pyæmia. Metastatic abscesses were formed in the lower lobe of the right lung of all sizes, from a millet seed to that of a walnut, and also *thrombi, entire, and softening in the same lung*, forming new centres for abscesses. This man had been sick a long time, and had gangrene in the popliteal space, which had been arrested previous to death some considerable time, but not in time to prevent ichoræmia. I cite these three cases as marking the stages leading to the state of pyæmia, distinctly and clearly. I have endeavored to present the facts as I observed them in these cases, and let the results follow. Post-mortem appearances are nature's teachings, before whose power our most subtle theories and ingenious hypotheses bow in humble submission.

I have examined all that died, in every one of which I have found *thrombus in the heart and lungs*, in some of the stages before mentioned, until I am inclined to look upon them as a necessary condition, and am fully persuaded that Virchow is right in calling it Leukæmia, as I shall endeavor to prove by and by. These remarks are not only true of gangrene, but are equally so of all that class of diseases arising from blood-poisoning, in which also ichoræmia secondarily plays an important part, and I am not sure but that it will enable us to explain all the phenomena presented. Their accompanying symptoms are very analogous to those arising from the effects of the bite of a venomous serpent, and perhaps what will cure one will arrest the other.

I said in the commencement, that primarily I believed it to be local, and that it passed into the blood by the agency of the absorbents, when toxæmia was produced, but how is this brought about? in what manner are those changes produced? I answer—1st. By contact of the morbid product with the traumatic surface. 2d. Transformation of cell content, which I am induced to believe is an impression made by oxydation upon the tissues. 3d. Absorption of the ichorous product, which causes a retrograde movement in the part, and also in the constituents of the blood, which I think is chemico-vital in character, and right here, the corpuscular change is quite apparent by the aid of the microscope. The red corpuscle loses its hæmine, which, becoming granular, is deposited in a circle, and aggregated around the outside of the field. The white corpuscles are very abundant, and occupy the whole surface. Crystals of ammoniacal salts are found in abundance, and an occasional fungus may be seen. Virchow has shown that it is not possible for substances or rather particles of matter to pass through the lymphatic glands, but as in the case of cinnabar, or tattooing, they are arrested, and detained there. I cannot say *how* it is accomplished, but the fact that the morbid agent *does* pass the glands, and as these are the last row of sentinels to contend against, I can see no reason why it should not proceed onward to the blood. I have a case in point. Priv. James Scott, 1st Mo., Co. A, died at this Hospital on Sept. 3d, in whose *thoracic duct* I found a well developed *thrombus*, and sent it to Surg. Brinton, U.S.V., Washington. It was about four inches long, and largest in that portion that occupied the receptaculum chyli. It is the first case that I have ever seen or heard of.

The glands were enlarged, indurated, and of a dark color, as if filled with pigment granules, which I very much suspect they were. The ichor undoubtedly had passed them. If so, the whole process corresponds very nearly to Virchow's idea of their function. This case conclusively proves *three very important facts, viz. That the poison, whatever it is, passes through the lymphatic glands; that it is capable of producing thrombus on the other side; and that the morbid element does not reside in the pigment but in its ichor.* I am of the opinion that this settles a vital point in the pathology of Leukæmia.

The death of the part affected by gangrene is a molecular one, and I believe should occupy an intermediate position between ulceration and mortification. It is always accompanied by asthma. Of the cases observed here during the month, the average temperature of the body was 89° Fahrenheit, and the number of pulsations was 101, which significantly points to the manner in which they die, and to the indications for treatment.

In the formation of thrombus, I have invariably found them of the shape of the vessels upon the right side, and globular upon the left, and seldom extending into the vessels. I have one of the left auricle now, weighing 482 grs., and one representing every branch of the pulmonary artery, which had its attachment to the right ventricle.

It will be inferred from what I have before stated, that I regard the disease as curable, before its consequences are constitutionally developed. This is exactly what I at present believe. I can see no reasonable prospect of reaching it, and would not know how to make a rational prescription with my present views of its pathology, other than support when it once becomes general. Upon the appearance of thrombus in the heart and lungs, which is easily detected by the physical signs, hope with me ceases; some may recover, but I have not seen them.

The rational remedies indicated, I believe to be oxygen, fluorine, chlorine, bromine, &c. I should expect much from the former, and shall try it as soon as I can. Fluorine is too destructive; chlorine can only be obtained in a fluid state under great pressure, or in the form of mechanical mixture, hence the selection of bromine, which is in the best form, and easiest of application, and over which condition I believe it to have a *specific* influence. I am of the opinion that it will arrest gangrene wherever it can be brought in

contact with *all* the pulp, or pultaceous matter; this frequently is very difficult to do, in the burrowing form of the disease, also from the nature of some wounds it is nearly impossible to get at every part.

When the full importance of the *general condition* was observed by me, I resolved to use the protosulphites internally; they did no good; bromine was then tried (3 drops comp. sol. three times a day), but with a like result. I am again putting it to a severe test in all cases under treatment here in the following form: R. Bromini comp. sol. ℥ij., aquæ destillatæ f. ℥ij., Syr. Simpl. ℥ij. M. One drachm three times a day. I am favorably impressed with it so far, but cannot speak yet with any certainty.

## A NEW UTERINE PORTE CAUSTIQUE.

BY FREDERICO D. LENTE, M.D.

An efficient uterine porte caustique by which the nitrate of silver may be applied thoroughly to the whole extent of a diseased cervix, or to the interior of the body of the uterus, has long been a desideratum. Every physician who has been in the habit of treating diseases of the uterus to any considerable extent, and especially by local medication, must have experienced constant annoyance from the difficulty of making applications with any of the appliances hitherto recommended. It is probably to this cause more than to any other that the intractable nature of chronic inflammation of the cervix (cervical leucorrhœa) is due. I have found the little instrument here represented by far the simplest and most efficient means of applying nitrate of silver to the cervix and body of the uterus, of all the contrivances that I have seen. It has been tried by a large number of physicians in New York, Boston, and other cities, and has given great satisfaction. I have therefore ventured to recommend it publicly to the profession. It is simply a long silver probe attached to a handle, with an olive-shaped enlargement an inch and a half from its extremity; the whole instrument should be just ten inches in length. The enlargement is for the purpose of showing when the extremity has reached the internal os, so as to prevent the caustic from touching the interior of the body of the womb when this is not advisable; if it is to be passed into the body, the enlargement will offer no resistance. It is armed with the nitrate by melting the latter in any convenient vessel; then, after having *cleaned the end thoroughly, and heated it moderately in a spirit lamp*, by dipping it repeatedly in the liquid caustic, after it has cooled a little, until a sufficient coating is lodged upon it. In applying it expose the os with the bivalve or with Sims's speculum, pass the sound to get the exact curve and direction of the cervical canal; bend the end of the probe to correspond, and then it can be passed directly to the internal os, or to the fundus, without losing any of the caustic in exploring, or unduly irritating the cervix. Just so much of the nitrate may be placed on the probe as may be thought necessary to leave in the uterus; it may be rubbed over the whole diseased surface repeatedly and firmly, and withdrawn, without any danger of detaching it from the probe, if the above directions are observed. The instrument may be had at Tiemann's and at Otto and Reynders's.

COLDSPRING, September 8, 1868.

DR. J. A. DOUGLASS, Associate Secretary of the Sanitary Commission, has gone to Charleston on the business of the Commission.

DR. J. W. S. GOULEY, Assist. Surg. U.S. Army, has been ordered to examine the Enrolling Records in the first ten districts of the State of New York with a view to establish uniformity in the medical examinations.

## Reports of Societies.

### AN INTERESTING CASE OF BLACK VOMIT,

WITH DISCUSSION AS TO ITS ETIOLOGY.

[Presented to the Kings County Medical Society.]

By J. T. CONKLING, M.D.

(Concluded from page 196.)

REMARKS BY DR. D. C. ENOS.

Dr. E. said he saw the patient in consultation with Dr. Conkling. He thought the case was an obscure one, presenting some of the phenomena of yellow fever, while many of the symptoms of that disease were altogether absent. The only prominent symptom of yellow fever was the black vomit. Doubtless, as Dr. Bell says, this is the most pathognomonic of all the symptoms of yellow fever; but it would be as erroneous to assert that every case of black vomit is one of yellow fever, as it would be to maintain that yellow fever could not occur without it. When speaking of black vomit, Dr. La Roche says, "considered by itself, without reference to other phenomena by which it is preceded and accompanied, and especially when noticed in a single or a few sporadic instances, the black vomit is not sufficient to stamp the disease in which it occurs as being the true yellow fever. While, on the other hand, its occurrence in this disease is not sufficiently constant and necessary to justify us in refusing to recognize as such cases which present its other symptoms, merely on the ground that black matter has not been ejected from the stomach." His citations from the best authors to prove both these propositions are ample and conclusive, covering fifteen pages of his great work on yellow fever. Hence, if the case detailed be one of yellow fever, in order to establish it beyond a doubt, the antecedent history, concomitant symptoms, and post-mortem lesions, must give the necessary corroborative evidence. What is their testimony? To determine this question properly, the points of the case which do not assort, as well as those which do, with the known phenomena presented by yellow fever, could be noted.

Some of the facts in this case which do not agree with those most generally present in yellow fever, are:—

1st. *The period of incubation was longer.*—The best authorities say the stage of incubation ordinarily varies from a few hours to five or ten days—*occasionally, but very rarely*, to sixteen, twenty, or more days. In this case it was at least nineteen days, and doubtless more, for, as Dr. La Roche says, it is not probable he took the poison the very day he left. His history as given, though not incompatible with yellow fever, still offers no *presumptive evidence* in favor of such a theory, but rather the reverse, since this compatibility itself requires to be established by the most unequivocal evidence that the case was one of yellow fever, its symptoms and its lesions being incapable of any other interpretation. Such a case being made out the mind would be compelled to believe that the man passed in an uninfected ship, this, to say the least, unusually long period of incubation; that he and he alone took the disease at Kingston or Port Cabello, and at a time when it was not prevailing in either place; that in mid-winter he must have taken the malady from its slumbering dregs or from its nascent causes, which it is said "are never effectually banished from tropical seaports."

2d. *It was not ushered in with a chill.*—"There is probably no disease," says Bartlett, "unless it is puerperal peritonitis, the access of which is more invariably attended by a chill or rigor than this."

3d. *Pain in the head was absent.*—In yellow fever, according to the same authority, it is almost invariably present—"generally it is acute and violent." Mr. Pym says, "The most characteristic symptom of the disease is the

peculiar pain in the forehead and eyeballs, with the drunken appearance of the eye."

4th. *The patient had severe pains in his bowels*, and not in his back, loins, and limbs, which are generally so constant and intense in yellow fever.

5th. *The color of the skin was normal.*—"In fatal cases of yellow fever, yellowness of the surface is almost always present."

6th. *The eyes were not suffused, injected, or yellow*—symptoms, some or all of which usually occur in the course of fatal cases, at least, of the genuine typhus icterodes.

7th. *The patient had excessive thirst*, which Sir Gilbert Blane says is not usually the case in yellow fever,—so say Bally, Jackson, Chisholm, Clark, and Dr. Lewis, of Mobile.

We have then the highest authority for believing that all these symptoms are generally present in yellow fever. Cases, however, do occur, in which one or more of them are absent, but rarely, if ever, in which all of them are.

These are some of the facts which, during the progress of the case, led Dr. E. to doubt that it was one of genuine yellow fever, notwithstanding the presence of the copious black vomit, which was so acid that it excoriated the fauces, and notwithstanding the constant uneasiness and jactitation of the patient, which are generally so characteristic of the disease. This doubt the post-mortem examination so carefully and so creditably made by Dr. Spier fails to remove.

The livid tinge of the surface which he describes does not equal "the yellow color varying from a pale or light to a dark orange or brown tint," which La Roche says is generally present:—"Sometimes it is greenish, mahogany, leaden, purple, or black." The lungs were engorged with black, as they sometimes are in yellow fever, though Drs. Physick and Cathrall (1793) found the lungs perfectly sound; so as a general thing did Harrison, La Roche, and others. Not unfrequently, however, the lower portions of the lungs are engorged with altered blood. This is frequently so in other diseases characterized by blood dyscrasia. The dark clot found in the right cavities of the heart in this case is like that frequently found in yellow fever, though Bally and Pinnell found it of a light amber color. The dark clot is also found in other diseases. The stomach contained the same dark fluid as that vomited, so did the intestines.

Dr. Bell relies mainly on fatty degeneration of the liver as the "pathognomonic lesion" of yellow fever. This is unfortunate for his diagnosis in this case, for the liver was not fatty in the true sense of the term. Dr. E. said he examined the hepatic cells and tissue with Dr. Spier. The cells were unusually normal—less fatty than those of any liver examined at the B. C. Hospital, in the last six months. A few cells contained a little more than the normal quantity of fat, but this can be found in most livers and in various diseases. Hæmatoidin was found abundant in the hepatic tissue, which Dr. Clark says is not found in yellow fever. The liver had not the yellow color so much insisted on by Louis, as the peculiar condition in yellow fever, and which is now supposed by some to be owing to acute fatty degeneration. M. Catel says, of 150 cases of yellow fever, all the livers were abnormal in color—discolored, and yellow, fawn, or drab. Dr. Spier says, this liver was very dark, between a purple and a chocolate, with a few patches on the anterior part a little lighter—slightly yellow in tint. The general and microscopic appearance of this liver, then, is unlike that usually seen in yellow fever. The spleen was very soft; whereas in yellow fever, says Bartlett, it is not the seat of any frequent and important alterations. Louis and Trousseau found it somewhat softened in about half the cases. Dr. Bache, in two out of ten. Dr. La Roche says it is often little, if at all, changed. The kidney was not degenerated, as in Bright's disease. The urine was scanty, though he passed it, he said, the evening before Dr. Conkling saw him. That found in the bladder was albuminous. It is scanty or suppressed in yellow fever; so it is in cholera, or in any disease

in which the fluids are passing off rapidly by the skin, or, as in this case, by the gastro-intestinal mucous membrane. The albumen was due to the presence of blood in the urine, as proved by the microscopic examination. The kidneys were congested, but normal in size and structure. Dr. Pinnell says, in fatal cases of yellow fever the kidneys are in a condition like that witnessed in Bright's disease. Dr. Blair met with only a few cases of *bloody urine* in yellow fever. He regarded it as a favorable symptom.

The muscular fibres of the heart were perfect. In yellow fever Prof. Riddell found them degenerated, all traces of striation having disappeared.

DR. BELL said the "liver was just beginning to be discolored," "that fatty degeneration had but just commenced." This may be so, but it hardly answers the purpose of a "pathognomonic" diagnosis. We cannot well say what it was about to do; all we can say, in point of fact, is, the liver was *not* fawn-colored, it was *not* in a state of fatty degeneration. We might as well say the kidneys were in the same morbid condition, because, though otherwise sound and healthy, a few of the tubuli uriniferi were bereft of their epithelium. So far as the heart is concerned, there is no room to predict that any such process was about to take place, for the record is, its "structure was perfect." The molecular disarrangement of the cardiac muscular fibres, which Prof. Riddell found so constant in yellow fever, had *not even commenced*.

Hence, from all these facts, Dr. E. inclined to think the case was not one of *genuine yellow fever*. He expressed this doubt with some hesitation, on account of the positive opinion of Dr. Bell, coincided in, it seems, by the distinguished author of the letter he read. It is proper to remark, however, that Dr. La Roche did not see the patient during life, nor witness the examination of the body after death.

Dr. Bell's explanation of the imperfection of the symptoms and lesions in this case is its "fatal rapidity," which, he says, is usual in climates where yellow fever rarely occurs; "since," he remarks, "the organism is deprived of a gradual adjustment to the influence of the poison, on the same principle as that a vigorous bird speedily perishes in an atmosphere which will sustain one gradually brought under its influence for a much longer time." But surely we must believe that any bird, whether slowly or suddenly brought into a poisonous or foul atmosphere, will live longer or die more gradually when *totally removed* from such atmosphere. Again, supposing this to have been a case of yellow fever, there was ample time for the system to "become adjusted to the influence of the poison." Indeed, this was so ample as of itself to make it rather improbable that the patient had the disease at all.

If not yellow fever, what could this disease have been? It may not be easy to determine this, and assign the proper name. Isolated cases frequently occur which defy nosology. Could it have been the effect of bilious remittent fever? This the patient said he had at Kingston. We shall show that black vomit sometimes occurs in this disease, and that the post-mortem lesions, as a whole, agree better with the pathology of bilious remittent than they do with that of yellow fever. Black vomit occurred in the bilious remittent fever in New York in 1843 in the Hospital, and at Yonkers (*Forrey on Remittent Fever, N. Y. Jour. of Med.*, vol. i. p. 340). Dr. Dickson (authority none will question) in 1825 saw two patients die of bilious remittent fever, on Charleston Neck, who ejected black vomit from the stomach and bowels. He also saw cases in 1827 (*Essays*, i. 355). Dr. Fenner, of New Orleans, saw two cases of it in 1850 (*South. Med. Reports*, ii. 89). Both these authors, let it be remembered, were familiar with yellow fever. Cleghorn saw black vomit in the tertian fever of Minorca, a disease more unlike yellow fever than bilious remittent is. In the Batavian fever, which was a bilious remittent, Dr. J. Johnson said patients sometimes have black vomit, and occasionally after lingering twenty or thirty days. This occurred also, he says, in the

Bengal remittent. Trousseau, Lancisi, Garnier, Imray, and others, refer to the occasional occurrence of black vomit in bilious remittent fevers. Dr. La Roche "has seen an interesting case of copious ejection of well marked black vomit occurring in a fatal attack of colic." It will be recollected in this connexion that Dr. C.'s patient *had great pains in his bowels*, and not in his back, loins, and limbs, as in yellow fever cases. Enough has been said to show that black vomit may occur in bilious remittent fever, even a month after the first attack.

Some of the post-mortem appearances in the case under discussion are more consonant with bilious remittent fever than with yellow fever. The spleen was very soft and friable; Dr. Spier says it was "diffuent." Dr. La Roche remarks that, while the spleen is but little if at all changed in yellow fever, in bilious remittent "it is very generally much enlarged and *softened*." Dr. Spier says the liver was very dark, between a purple and a chocolate color. This description agrees tolerably well with the so called "*bronze liver*" of bilious remittent fever. This color, Dr. Alonzo Clark says, is owing to altered *hæmatine*, which Prof. Virchow named *hæmatoidin*. This coloring matter is not in the cells, but in the hepatic tissues. Dr. Spier's drawing well illustrates this. He found the liver well supplied with hæmatoidin. Profs. Clark, Leidy, and Dr. La Roche say, that, though this modified hæmatin is found in black vomit, it has not been found in the liver of yellow fever.

This liver agrees with that of bilious remittent fever in another point. We have already seen that it was but little, if at all, fatty. Prof. Clark, in his letter to Dr. La Roche on the "Bronze Liver," says, a deposit of oil globules in the cells and tissues of the liver is *not so frequently met with, nor is it so abundant in remittent as in yellow fever*. In this letter he also makes an interesting remark on the duration of the coloring matter in the bronze liver. He said, "he had examined the livers of two persons who had had remittent fever a year or more before their fatal sickness. In both the remittent color remained well marked, though less intense than in recent cases. The microscope disclosed the coloring matter unchanged, except, perhaps, in quantity."

Dr. Spier found the hæmatoidin not only abundant in the liver, but also in many other organs and tissues. This shows how profoundly the blood was modified. The minute and thorough examination made by Dr. Spier, without reference to any theory, has done much towards clearing up the difficulties of diagnosis in this interesting case.

From a careful review of all the facts before us, the most plausible theory of the process of the disease appears to be this. That the patient had, as he alleged, at Kingston, bilious remittent fever which confined him to the hospital several weeks—that for two weeks after leaving the hospital he was imperfectly nourished, his diet being *bread and salt fish*; he did not regain his strength. That though he worked his passage to Philadelphia he was all the while very feeble. Arriving here he dined on corned-beef and cabbage; he vomited in the evening. Next day he took salts and cream of tartar, which caused vomiting and purging; in the evening the ejected matters were copious, acid, and dark-colored. This continued at intervals for thirty-eight hours, when he died. It is probable that the *bilious remittent* fever caused the morbid changes in the blood and in the tissues from which Nature was feebly trying to rally—that the last fatal illness was excited in his enfeebled and altered organism by the ingesta which he took, and by the medicine which was given him.

Dr. Bell added, that he thought no one could justly infer from his previous remarks that black vomit necessarily indicated yellow fever, or that it alone was sufficient to stamp a case of disease as such. In addition to what he had said of the symptoms wanting in this case—headache, backache, aching of the extremities, etc.—these, like jaundice, are not unfrequently absent in rapidly fatal cases, in relapse, or in cases enfeebled by other recent disease. There were several such cases among the invalid soldiers



under his care last summer. One, in particular, had been sent from the Tortugas on account of dysentery, and at the time he was received into the Floating Hospital his only complaint was an increasing debility. He gradually sank, and died with black vomit in eighteen hours, without other prominent symptoms. There was no question in this case, because the steamer *Delaware*, in which he arrived, was known to be badly infected. Another case also, an invalid from *intermittent fever*, died in twelve hours from the time of attack, with six hours of black vomit. Both of these cases had fatty degeneration of the liver—in one the liver was yellow, in the other it was livid. Besides such cases as these, there is a class of yellow fever patients known as walking cases, which generally die with black vomit within a few hours from the time they come under observation, and are not usually characterized by chill, headache, or other prominent symptom. Yet they are accepted as true cases of yellow fever.

The case under discussion appears to have been rapidly fatal on account of relapse or other previous cause of debility. It may have been bilious remittent fever, though we have no evidence of this, other than that the patient himself stated that he had that disease at the time when, and the place where yellow fever is known to have been prevailing. The period of incubation is no index of the duration of the disease, nor of its severity, while it is nevertheless highly probable that the fatal issue in this case was promoted by the change from the high temperature where it was contracted to the low temperature under which the poison became active.

That a certain period of incubation, chill, pain in head, back, and extremities, jaundice, suffused and injected eyes, and absence of thirst—"that all of these symptoms are generally present in yellow fever"—is contrary to both his observation and his reading; and further, that according to a somewhat extended observation of bilious remittent fever in hot climates, he believes most of these symptoms to be quite as essential to "bilious remittent fever" as to yellow fever. But of black vomit as a symptom, whether existing almost alone, as in this case, or in connexion with other symptoms, it is certainly much less characteristic of bilious than of yellow fever under any circumstances whatever; and he is therefore wholly unable to see the propriety of taking this symptom to indicate a disease in which it very rarely occurs, rather than one in which it very commonly occurs.

In addition to what has been said of the pathology of the case, it is certainly quite as reasonable to find "a few cells in process of fatty degeneration," and to infer, therefore, that this lesion has but just commenced, as it is not to be satisfied with anything less than the degree of fatty degeneration common to the drunkard's liver in hospital practice.

The presence or absence of hæmatoidin may depend upon the degree of disorganization of the blood corpuscles. This is a recent question in yellow fever, and requires further investigation. The other exceptions of Dr. Enos are abundantly answered by the authority quoted—Dr. La Roche.

SIR HENRY HOLLAND, physician to the Queen of England, is on a visit to Washington.

DR. HENRY W. WILLIAMS, of Boston, has returned from a European visit. He has communicated his observations on European ophthalmic institutions to the *Boston Medical Journal*.

DR. J. J. CHRISOLM, Med. Purveyor of the rebel army at Charleston, publishes the following card:—*Silver Plate Wanted*.—To be converted into caustic for the use of the sick of the army. \$8 per ounce will be paid for all prime plate. Old spoons and old plate will answer the purposes of the medical department as well as new. Apply at Medical Purveyor's office, opposite Congaree House.

## American Medical Times.

SATURDAY, SEPTEMBER 26, 1863.

### REMOVAL OF SLAUGHTER-HOUSES.

NEW YORK has at length secured a CITY INSPECTOR, who, at least, seems to have a regard for its sanitary interests. Whatever may be the motive that inspires his official acts, it is very evident that Mr. BOOLE is doing more effective work in his department than has been done during the last twelve years. He not only desired to have clean streets, but he set the machinery to work and had them cleaned very thoroughly; and he steadily and perseveringly labors to perfect arrangements whereby they will be kept clean. His last and most important effort has been, to effect the removal of the slaughter-houses beyond the city limits. This is a task which few would have the courage to undertake, both on account of its magnitude, and the vast pecuniary interests concerned.

We may gain some idea of the extent of this nuisance from the following figures. There are at present 223 slaughter-houses located in various parts of the city, of which number 76 are on the west side, and 147 on the east side. They are distributed as follows: In the Ninth Ward there are 26, in the Twentieth Ward 21, and in the Twenty-second Ward 29. On the east side of the city the Seventeenth Ward has 56, the Eighteenth Ward 13, the Nineteenth Ward 18, the Twenty-first Ward 20. In all the other Wards, with the exception of the Eleventh, which has 16, the whole number of slaughter-houses amounts to but 18, which are respectively located in the Twelfth, Thirteenth, Fourteenth, Fifteenth, and Sixteenth Wards. The weekly average of animals slaughtered in New York amounts to about 4,500 head of cattle, and 13,000 sheep, calves, and hogs. These slaughter-house establishments are generally conducted without the slightest regard to the public health, or to the comfort of the neighboring population. The blood and refuse are allowed to drain away in open sewers, or accumulate around the buildings; the animals are confined without food or water for days together, and the air is filled with the disgusting odors which arise from the decaying animal material, or from the works.

The removal of slaughter-houses beyond the city limits is urged, principally, on the ground of their being injurious to the public health. Although there is much evidence in proof of the correctness of this assertion, yet medical opinion is not unanimous upon this point. It is stated that the mortality of the neighborhood of the slaughter-houses of Paris fell 15 to 20 per cent. after their removal. Medical men have frequently testified to the origin and malignancy of fevers, and other zymotic disease, in the vicinity of these buildings. But then we have on record the remarkable report of Duchâtelet, on the establishment at Montfaucon, Paris, at which annually the "greater part of the bodies of 12,000 horses, and from 25,000 to 30,000 small animals are left to rot," the odor of which is sometimes perceptible at a distance of eight miles; and yet the employees are remarkably healthy, and attain to great age.

Whatever importance may be attached to this report, there can be no doubt that a slaughter-house in the midst

of a thickly populated part of the town is a great public and private nuisance, and should be abated. City Inspector BOOLE fully comprehends this fact, and proposes the only feasible remedy. He advises the removal of these establishments to the suburbs according to the French system, which is thus described:—

"There are five *abattoirs* in Paris, three in the northern and two in the southern limits of the city, which were constructed in accordance with a decree of Napoleon the First, in 1809, suppressing all the slaughter-houses then in operation. It is only necessary for our present purpose to give a description of one of these five establishments, and the largest of the five, which is called the *Abattoir de Papincourt*. It consists of twenty-three distinct buildings, on a sloping ground, and within a walled inclosure 645 feet by 570 feet. In front of the abattoir is a small planted promenade. At the entrance are two pavilions, containing the offices of the administrator, and an *octroi*, or receiver's office. To the right and left of the central court, 438 feet by 291 feet, are four slaughter-houses, separated by a road crossing the inclosure. They are each 141 by 96 feet, and include, respectively, a flagged court, on each side of which are eight slaughter-stalls for the use of butchers, sixty in number, by whom the keys are kept. Each one of the slaughter-stalls receives light and ventilation from arcades in the front walls. Above are spacious attics for drying the skins and preparing the tallow. To preserve a cool temperature, a considerable elevation and projection have been given to the roofs. Behind the slaughter-houses are two ranges of sheds, containing sheep-pens, and at the extremities eight stables for about 400 oxen. Each of these buildings contains a loft for forage. At the end there is a watering place, and pens for cattle, besides two detached buildings, each traversed by a broad corridor which communicates with four melting-houses, below which are cellars containing coolers. Beyond these, and parallel with the outer wall, are two buildings, raised on cellars, in which the skins are kept; and near them in front of the entrance is a double reservoir for water 228 feet in length, built of solid masonry, and resting on arches which form stands for carts. There is also a '*triperie*' for washing and boiling tripe and calves' feet. The blood runs into a reservoir prepared for that purpose, and is removed therefrom by pumps, put into casks and sent to the different manufacturers who use it—such as chemists, sugar refiners, etc. The apparatus for slaughtering is uniform, and belongs to the establishment. The blood, offal, and manure are removed daily. Diseased cattle are sent to the pound outside of the city, where after a time they are slaughtered, and the meat used for sundry chemical and other purposes."

The chief opposition anticipated to the practical application of this action is from the butchers. Both in Paris and London they opposed it as an encroachment upon their inherent rights, and the imposition of unnecessary restrictions upon their business. MR. BOOLE enters into an estimate of the saving in expenses which the French system would bring to the butchers of this city. In the direct outlay of money this would be very considerable, amounting to but about one-third of the present expenses. To this must be added greater facilities in bringing forward animals to the place of slaughter, diminution of hands, increased facilities for marketing by the establishment of up-town markets, &c., &c. The special plan of the City Inspector, in putting his ideas into practical operation, is to erect four abattoirs on the Island, two on the east and two on the west side of the city, above Thirteenth street. The city already owns lots in the proper localities for these establishments.

In the opinion of the City Inspector the time has come when slaughter-houses must cease to exist in the compactly

inhabited portion of our city. Laws for their better regulation must yield to their entire abolishment. Whether "there is no season more fitting than the present" to effect this great reform will remain to be seen; but of this there can be no doubt, that every good citizen should heartily endorse the action of MR. BOOLE, and exert all his influence to accomplish so desirable a change. If once inaugurated it will not only remove these local nuisances, but it will also relieve the streets of the herds of animals driven to market, and of that most disgusting of all street exhibitions, viz. drovers' carts, over-filled with sheep or calves. The opportunity which is now offered for sanitary reform, under the powerful influence of the present CITY INSPECTOR, should not be lost by indifference on the part of the people.

### THE WEEK.

THERE has existed considerable doubt among physicians as to their liability under the Internal Revenue law to a tax on their incomes. The Commissioner has made several decisions. The following extracts embrace the principal points:

"It is asked whether an assessment for Income Tax is to be made upon collections during the year 1862, for professional services rendered during that year and previous years, and whether an estimate of unrealized, or contingent income due for services rendered in that year, ought to be included? I answer, that the assessment should be made upon all collections during the year 1862, without regard to whether the services were rendered during that or previous years. If any profits made during that year and uncollected, remain uncollected when they might have been readily realized, and with a view merely to avoid the assessment of the tax, they are to be considered as collected, and assessed accordingly; for no evasion of the liability of the tax-payer of his duty under the law, should be allowed to profit him. But merely contingent profits, uncollected, the sum not ascertained, remaining open for adjustment, are not liable to assessment.

"2d. As to 'expenses necessarily incurred in carrying on any trade, business, or profession,' physicians cannot be allowed the wear and tear of horses, carriages and harness, any more than they can of their own constitutions, or of their health, necessarily injured in the practice of their vocation; but any incidental expenses, such as the feeding of horses, hire of servants, and such like, are to be deducted from their income.

"The amount expended by a physician for the keeping of a horse used exclusively in the business of his profession, is a legitimate deduction from income."

"DRUNKENNESS in England has gradually risen into a most formidable social vice, as appears from the following statement in the *Lancet*:

By a Parliamentary paper lately issued, it appears that in the year ending Michaelmas, 1861, there were 54,123 persons, male and female, convicted of drunkenness in England and Wales; but in the year ending Michaelmas, 1862, the number convicted reached the high amount of 63,250, whilst not less than 100,000 were proceeded against before justices of the peace for being in a state of inebriety. Thus the disheartening increase of more than 9000 intoxicated persons was proved to have occurred last year! The proportion of drunkards convicted to those taken up did not alter, being in each year about 66 per cent. of those charged with this offence to our national character."

THE English Medical Act which compels every person practising medicine and surgery to be qualified and registered does not, it seems, prevent quacks from this country

obtaining a foothold in the profession. Many of these graduates from chartered medical colleges exhibit their diplomas, are registered, and commence practice. The profession of England should understand that our State Legislatures charter colleges of every complexion, and the graduates of these institutions are therefore legally qualified. The title of M.D. in this country has no significance whatever.

## Reviews.

A TREATISE ON HYGIENE, WITH ESPECIAL REFERENCE TO THE MILITARY SERVICE. By WILLIAM A. HAMMOND, M.D., Surgeon-General U. S. Army; Fellow of the College of Physicians of Philadelphia; Member of the Philadelphia Pathological Society; of the Academy of Natural Sciences; of the American Philosophical Society; Honorary Corresponding Member of the British Medical Association, etc., etc. Philadelphia: J. B. Lippincott & Co. 1863. 8vo. pp. 604.

WHEN, in 1858, we read in the evidence given by distinguished medical officers before SIR SIDNEY HERBERT'S Commission of Inquiry, etc., that a suitable manual upon Military Hygiene did not exist; and that, as was stated by Sir John Hall, Prof. Parker, and the Director-General, Dr. Smith, a well arranged treatise was greatly needed in the Medical Department of the British Army, such confession of the want induced the hope that it would soon be supplied. And to the American soldier and surgeon such a tribute would have been no less welcome than to the British army. But the great war that so suddenly burst upon our ungarded republic called into the military service, as DR. HAMMOND remarks in his Preface, "thousands of physicians to take the medical charge of the armies created—many of them well known for their professional eminence, and others, by far the greater number, young and inexperienced, though not lacking the will and ability to do their whole duty when that duty was pointed out to them;" but these physicians found no manual of Military Hygiene among the volumes generously furnished them by the Army Medical Bureau.

Called to the Surgeon-Generalship of the Army in the summer of 1862, in the midst of most exciting campaigns, and with an immense expansion of the service, DR. HAMMOND might have repeated the excuse that was offered to the Commission of Inquiry, etc., by the British Director-General, when he stated that he had long had the intention of preparing a manual, but his official duties had not allowed him time for such work. That, under the overwhelming burdens of official duty in charge of the medical service for an army of a million of volunteers, the Surgeon-General should have planned and executed such a work as the treatise now before us, is the best of testimony to the practical estimate he places upon sanitary science and preventive medicine.

A treatise prepared so hastily, and under such pressure of vast official responsibilities, ought not to be—cannot be encyclopædic and complete, or in any sense an exhaustive treatise. It should be eminently practical, and adapted to the wants of the army medical officer. Manifestly this has been the design of the author; and, considered as a philosophical and practical treatise upon the principles and applications of sanitary science in the organization and medical care of armies, he has imparted to its chapters such scope of discussion and such accurate scientific statements as cannot fail to command the attention and awaken the interest, not only of medical officers and the profession generally, but of all educated men in the army.

The subjects discussed in the treatise are presented under three general heads:—

1. *The Examination of Recruits.*
2. *The Agents inherent in the Organism which affect the Hygienic Condition of Man.*
3. *Agents External to the Organism which act upon the Health of Man.*

These subjects are well presented in *twenty-nine* chapters, illustrated with *twenty-four* woodcuts.

The argument of the author is concisely stated in the Introduction. He says:—"In order that an army may be effective it must be healthy, and in order that it may be healthy the men composing it must be well formed, of good constitution, free from any disease which can impair their efficiency—and kept by physical, mental, and dietetic influences, in such a condition as will, if it do not entirely prevent disease, at least reduce the sickness to the lowest possible minimum. . . .

"To put a soldier into the field costs the government nearly four hundred dollars; should he die, or become permanently disabled in service, a pension is given. Looking at this matter, therefore, merely in a financial point of view, we perceive that it is a subject of serious importance that every means should be taken to preserve the lives and health of those who come forward to fight the battles of their country. . . .

"The greater number of diseases are, as we shall point out more at length hereafter, more or less preventible. When a preventible disease occurs some one is to blame, either the subject of it or those who are charged with the duty of providing for his well-being."

This is the doctrine of hygienists, and from the text thus clearly stated by the author the discourse that follows is plain and practical. The first chapters are devoted to the examination of the various questions connected with the subject of qualifications and disqualifications, general and special.

(To be Continued.)

THE PRINCIPLES AND PRACTICE OF DENTAL SURGERY. By CHAPIN A. HARRIS, M.D., D.D.S. Eighth Edition: Enlarged and revised, with three hundred and twenty illustrations. Philadelphia: Lindsay & Blakiston, 1863. Pp. 869.

The present edition of this work has been very greatly improved. The death of its lamented author compelled the publishers to engage the services of eminent dental writers, and several valuable chapters have been added. Prof. Austen has contributed a chapter on Vulcanite; Prof. Johnston, of Baltimore, Dr. Dwinelle of this city, and others, have added to different portions of the work. It may now be considered the most complete work on dental surgery.

DR. CYRUS RAMSAY, of the New York City Inspector's office, communicates to the *Reporter* the following facts on the comparative frequency of cancer in New York and London:

The annexed table shows the total deaths by this cause in New York, London, and England, in each year from 1851 to 1863:—

YEAR.....	1852	1853	1854	1855	1856	1857	1858	1859	1860	1861	1862	1863
New York.....	91	77	107	147	154	187	189	198	180	178	169	169
London .....	986	1083	1021	1055	1074	1159	1143	1161	1191	1204	1231	1231
England.....	5477	5668	5826	6016	5859	6201	6488	6676	6837	7402	7540	7540

The annual average for ten years, in New York is 150. The annual average for ten years, in London, is 1,112. The proportion is  $7\frac{1}{2}$  in London to 1 in New York. When it is remembered that London contains about three times the population of New York, the excess of deaths by this disease in the former is more apparent.

DR. JOHN A. LIDELL, Surgeon U.S.V., has been appointed Professor of Anatomy and Physiology in the National Medical College at Washington.

PROF. F. H. HAMILTON has taken up his permanent residence in New York City.

## Correspondence.

## EXTREME ANÆMIA,

ACCOMPANIED BY A RARE FORM OF DISCOLORATION.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—The patient came twice under my notice during the past summer, and the following is a brief description of her case.

She lives near Schodack on the Hudson river, is a native of this country, about twenty years of age, unmarried, of nervous temperament and delicate constitution. Her eyes are grey, her hair dark brown. Her face, which is one of considerable refinement, is extremely pale, even deathlike, her hands very thin and white, and her tongue and gums much lighter than the natural hue. Her whole appearance is that of a person who has sustained severe losses of blood, and this effect is heightened by contrast with two circles, which vary in color from jet black to a deep bluish black, and which surround the eyes and are parted by the bridge of the nose. They are about three-quarters of an inch in width, quite symmetrical in shape, and are constantly present, although varying at times to a trifling extent in depth of color. Unlike Stearrhoea they are not greasy or the result of an apparent exudation, but as a general rule are dry, and resemble stains upon or beneath normal integument. When rubbed the pigment can be partially removed, but the friction leaves the skin quite tender and the discoloration soon returns. A watery discharge sometimes takes place from the rings, and will blacken those portions of the integument upon which it runs.

The eyes suggest those of a ringdove, the rings being black, or the effect which is produced by the black leather spectacles which are occasionally worn by boys.

This discoloration was first noticed about two years since on the return of the girl's mother, after a few hours' absence. It was then of a greenish hue, but has gradually become darker. There is great hyperæsthesia of the surface, and the patient is very sensitive to cold. The pulse is very difficult to detect, being exceedingly small and frequent, and easily confounded with the twitchings of the flexor tendons at the wrist, which are in constant action. She has very little appetite, but likes clams in any form, and as a general rule, salt food in preference to fresh. Suffers considerably in consequence of a pain, perhaps connected with the ovaries, which extends from just above the lower ribs to the groin, and usually occupies the left side, although often felt upon the right. She does not complain of any pain in passing water.

Menstruation first occurred at eleven years of age, and the discharge continued to appear quite regularly, although somewhat scantily, until after a very severe attack of scarlet fever at the age of fourteen, which left her very much reduced. This was followed by menorrhagia until two years since, when the menses disappeared. For a year she has been subject to discharges of blood *per anum*, passing a large quantity almost daily, accompanied with spasms and violent pain. She has also suffered much from severe spasmodic paroxysms and from all the train of nervous symptoms to which anæmic and hysterical females are liable, but still maintains a good degree of resolution.

The remainder of the body is free from discolorations. Various methods of treatment have been resorted to at different times, but the patient still remains a constant sufferer.

I have not been able to find a similar case described in several books to which I have referred, and think it will interest the members of the profession.

Yours, etc.,

F. A. BURRALL, M.D.

Physician to the Northern Dispensary.

## Army Medical Intelligence.

GENERAL ORDERS, No. 808.

WAR DEPARTMENT,  
ADJUTANT-GENERAL'S OFFICE,  
Washington, September 12, 1868.

The Medical Inspector-General has, under direction of the Surgeon-General, the supervision of all that relates to the sanitary condition of the Army, whether in transports, quarters, or camps; the hygiene, police, discipline, and efficiency of field and general hospitals; and the assignment of duties to Medical Inspectors.

Medical Inspectors are charged with the duty of inspecting the sanitary condition of transports, quarters, and camps of field and general hospitals, and will report to the Medical Inspector-General all circumstances relating to the sanitary condition and wants of troops and of hospitals, and to the skill, efficiency, and conduct of the officers and attendants connected with the Medical Department. They are required to see that all regulations for protecting the health of troops, and for the careful treatment of and attendance upon the sick and wounded, are duly observed.

They will carefully examine into the quantity, quality, and condition of medical and hospital supplies, the correctness of all medical, sanitary, statistical, military, and property records and accounts pertaining to the Medical Department, and the punctuality with which reports and returns, required by Regulations, have been forwarded to the Surgeon-General.

They will ascertain the amount of disease and mortality among the troops, inquire into the causes, and the steps that may have been taken for its prevention or mitigation, indicating, verbally or in writing, to the medical officers such additional measures or precautions as may be requisite. When sanitary reforms, requiring the sanction and co-operation of military authority, are urgently demanded, they will report at once, in writing, to the officer commanding Corps, Department, or Division, the circumstances and necessities of the case, and the measures considered advisable for their relief, forwarding a duplicate of such reports to the Medical Inspector-General.

They will instruct and direct the medical officers in charge as to the proper measures to be adopted for the correction of errors and abuses, and, in all cases of conflict of views, authority, or instructions, with those of Medical Directors, will report the circumstances fully and promptly to the Medical Inspector-General for the Surgeon-General's orders.

Upon or near the beginning of each month, Medical Inspectors will make minute and thorough inspections of hospitals, barracks, camps, transports, &c., &c., within the districts to which they are assigned, in conformity with these instructions, and the forms for inspection reports furnished them.

Monthly inspection reports, in addition to remarks under the several heads, will also convey the fullest information in regard to the medical and surgical treatment adopted; the advantages or disadvantages of location, construction, general arrangement and administration of hospitals, camps, barracks; the necessity for improvement, alteration, or repair, with such recommendations as will most certainly conduce to the health and comfort of the troops, and the proper care and treatment of the sick and wounded. When alterations, improvements, or repairs, requiring the action of Heads of Bureau, are considered essential, special reports, accompanied by plans and approximate estimates of quantities or cost, will be made.

Medical Inspectors will make themselves fully conversant with the regulations of the Subsistence Department in all that relates to issues to hospitals, whether general, field, division, or regimental, and will satisfy themselves, by rigid examination of accounts and expenditures, that the fund accruing from retained rations is judiciously applied, and not diverted from its proper purposes through the

ignorance or inattention of medical officers, giving such information and instruction on this subject as may be required. They will also give close attention to the supervision of cooking by the medical officer, whose duty it is, under the act of Congress of March 3, 1863, and General Orders, No. 547, of 1863, to "submit his suggestions for improving the cooking, in writing, to the commanding officer," and to accompany him in frequent inspections of the kitchens and messes.

They will exercise sound discrimination in reporting "an officer of the Medical Corps as disqualified, by age or otherwise, for promotion to a higher grade, or unfitted for the performance of his professional duties," and be prepared to submit evidence of its correctness to the Medical Board, by whom the charge will be investigated.

Medical Inspectors are also charged with the duty of designating, to the surgeon in charge of general hospitals and convalescent camps, all soldiers who are in their opinion fit subjects for discharge on surgeon's certificate of disability, or sufficiently recovered to be able for duty. In all such cases they will direct the surgeon to discharge from service, in accordance with existing orders and regulations, or return to duty those so designated.

Official communications to the Medical Inspector General will be directed to the Surgeon General, U.S.A., and plainly addressed on the left-hand lower corner of envelope. "For the Medical Inspector General," the name and title of the writer being *written* under the words "Official Business."

It is expected that all commanding officers will afford every facility to Medical Inspectors in the execution of their important duties, giving such orders as may be necessary to carry into effect their suggestions and recommendations; and it is enjoined upon all medical officers, and others connected with the Medical Department of the United States Army, to yield prompt compliance with the instructions they may receive from Medical Inspectors on duty in the Army, Department, or District in which they are serving, on all matters relating to the sanitary condition of the troops, and of the hygiene, police, discipline, and efficiency of hospitals.

BY ORDER OF THE SECRETARY OF WAR:

E. D. TOWNSEND,  
*Assistant Adjutant General.*

#### ORDERS, CHANGES, &c.

Leave of absence for twenty days has been granted to Assistant-Surgeon L. Jewett, 14th Connecticut Vols.

Assistant-Surgeon James H. Hill, 30th Missouri Vols., having tendered his resignation, has been honorably discharged the service of the United States on account of physical disability, he having been absent sick since February 11, 1868, as reported by the rolls of his regiment.

Leave of absence has been granted to Acting Assistant-Surgeon W. J. C. Duhamel, U.S.A., for ten days.

The resignation of Surgeon Charles Mayo, U.S.V., has been accepted by the President, to take effect September 8, 1868.

Surgeon L. C. Rice, U.S.V., has relieved Assistant-Surgeon H. R. Tilton, U.S.A., in charge of Floating Hospital "Nashville," Vicksburg, Miss.

Surgeon G. Grant, U.S.V., has been relieved from duty at Evansville, Ind., and assigned to duty as Superintendent of Hospitals, at Madison, Ind.

Surgeons G. Taylor, U.S.A., and Alexander B. Mott, U.S.V., have been assigned to duty as members of the Board in session at New York, for the examination of Surgeons and Assistant-Surgeons of colored troops.

Surgeon J. J. Craven, U.S.V., is on duty at Morris Island, S. C., as Chief Medical Officer of troops under command of General T. Seymour.

Surgeon M. Clymer, U.S.V., has been assigned to duty as Chief Medical Officer, at Beaufort, S. C.

Surgeon R. B. Bonteoon, U.S.V., is sick in quarters at Hilton Head, S. C.

Surgeon J. E. McDonald is temporarily on duty as Medical Director, 9th Army Corps, during the absence of Surgeon W. C. Otterson, U.S.V., who is on leave at his home for the benefit of his health.

Surgeons J. L. Teed, Francis Salter, G. W. Hogeboom, and W. Threlkeld, U.S.V., and Assistant-Surgeons C. S. Frink and William Carroll, U.S.V., have been appointed to the Cumberland Hospital, Nashville, Tenn.

Surgeon James T. Ghiselin, U.S.A., has been ordered to report for duty to Major-General Meade, commanding Army of the Potomac.

Surgeon E. Shippen, U.S.V., has been ordered to report to Surgeon W. S. King, U.S.A., Medical Director at Philadelphia, Penn., to relieve Surgeon P. B. Goddard, U.S.V., in charge of the South street General Hospital in that city.

Surgeon A. M. Clark, U.S.V., is under medical treatment at Washing-

ton, D. C. Dr. C. is suffering from the effects of sunstroke, received some time ago.

The Mansfield General Hospital at Morehead city, N. C., is completed and is receiving patients. Surgeon J. B. Bellangee, U.S.V., is in charge.

The General Hospital in the Central Park, New York, will not be discontinued.

The Board of Officers convened by Special Orders 356 of August 11, 1868, from the Adjutant-General's Office, "to examine all convalescents for admission to the Invalid Corps, that may be found at the various hospitals in and around Philadelphia," has been dissolved.

The Medical Department has received intelligence of the death of Surgeon B. Darrach, U.S.V., at Vicksburg, Miss., in July last.

Leave of absence for fifteen days has been granted Act. Assistant-Surgeon F. G. H. Bradford, U.S.A., with permission to visit Hilton Head, S.C.

Assistant-Surgeon Abel C. Benedict, U.S.V., has been promoted Surgeon to date September 16, 1868.

Sherman Morse, late Assistant-Surgeon, 3d New York Cavalry, whose appointment was revoked by Special Orders No. 275, Adjutant-General's Office, has been restored to his regiment, with pay from date of rejoining it, provided the vacancy has not been filled, and that the regiment is not deprived of one Assistant-Surgeon under the requirements of General Orders No. 163. Evidence of the vacancy to be obtained from the Governor.

Leave of absence for five days has been granted to Assistant-Surgeon S. B. Ward, U.S.A.

Surgeon A. M. Clark, U.S.V., has been relieved from duty with the Army of the Potomac, and ordered to repair to Washington, and report for duty to Colonel Hoffman, Commissary General of Prisoners.

So much of Special Orders No. 404, September 9, 1868, as discharged Assistant-Surgeon James H. Hill, 30th Missouri Volunteers, is hereby revoked, he having been previously discharged by Special Orders 294, September 3, 1868, from the Adjutant-General's Office.

Surgeon William Moss, U.S.V., has tendered his resignation.

The resignation of Hospital Chaplain Charles Seymour has been accepted by the President.

So much of Special Orders No. 408, September 11, 1868, as directed Assistant-Surgeon William S. Ely, U.S.V., to report to Major-General Foster, Commanding Department of Virginia and North Carolina, has been revoked, and he will report for duty to the Surgeon in charge Division No. 1, Annapolis General Hospital.

Surgeon William H. Church, U.S.V., Medical Director of the Dept. of the Ohio, has been granted thirty days' leave, with permission to tender his resignation at the expiration of his leave.

Surgeon Thomas F. Perley, U.S.V., has been assigned to duty at Portland, Maine, and will render medical services to all officers and soldiers of Volunteers who may be in that city.

Assistant-Surgeon Alexander Collar, 34th Michigan Volunteers, has been honorably discharged on account of physical disability and for absence without leave as reported on the rolls of his regiment.

## Medical News.

**CHOLERA AT BOMBAY.**—A sharp visitation of cholera in Bombay has carried off several Europeans, but the scourge has now disappeared.—*Lancet.*

**OBSCENE CIRCULARS.**—Rascality seems to have manifested curious ingenuity in furtherance of the schemes of a so-called American medical practitioner, who, calling himself a doctor, lives where those whom he addresses most do congregate. A yellow bill, setting forth in most unmistakable terms that which he proposes to treat, has attached to it a small slip of adhesive paper, which enables it to be fastened to the backs of private carriages standing in the streets. This bill, printed in true sensation style, is headed "No cure, no pay," and appropriately, on the part of the alleged American physician, announces his overtures to the public.—*Lancet.*

**THE VENTILATION OF SHIPS.**—A plan of ventilation, invented and patented by Dr. Edmonds, Staff-Surgeon of the *Victory*, is to be tested in the turret-ship *Royal Sovereign*, at present in course of construction at Portsmouth. Dr. Edmonds's proposed system is self-acting, and it professes—

Not only to furnish an ample supply of pure fresh air to the crew, but also to effect the very important object of preserving the ship's timbers from decay or dry rot, by creating a constant circulation of air throughout the framework of the ship. This is effected by converting the timber spaces from the keel upward, between the "ribs," so to speak, of the ship, into draught channels leading into a tunnel shaft fore and aft on each side of the ship's berthing deck, which communicates by cross shaftings with the funnel, the draught of the funnel furnishing the motive power for the suction of a continuous current of air upwards through the ship's timbers, and carrying off the foul air and gases from the ship's hold and bilges without tainting the air the crew breathe on the berth deck.—*Med. Times and Gaz.*

# Original Lectures.

## CYANOSIS.

By J. LEWIS SMITH, M.D.,

PEDIATRICIAN TO THE ORPHAN HOME AND ASYLUM, LECTURER IN THE UNIVERSITY MED. COLLEGE.

Being a Paper read before the N. Y. Academy of Medicine, February 18 and March 4, 1893.]

### PART IV.

The inter-ventricular septum was incomplete in eight cases, complete in one (No. 111), and in two its condition was not recorded. The inter-auricular septum was incomplete, usually in the fetal state, in six cases, closed in four, and its condition not recorded in one (No. 110). The ductus arteriosus was absent in two cases, closed in six, and its condition not mentioned in three. It is an important fact, that in one specimen (No. 111) there was no communication between the two sides of the heart, and the arterial duct was closed. In all the other cases of cyanosis, so far as is certainly known, there was communication between the two circulatory systems at the centre of circulation. But it is probable that the septa were also perfect, and the arterial duct closed in No. 110, the records of which case are not complete.

The right auriculo-ventricular aperture and the walls of the right ventricle do not appear to be much affected in this malformation. The right auricle was sometimes dilated, in other cases natural.

There are records of auscultation in five cases as follows:—

Case 109.—“A loud murmur was heard accompanying the impulse of the heart. It was of a soft or blowing character, and was most intense at the cartilage of the third left rib, near the sternum, and the second sound was there inaudible. From this point it continued to be heard very distinctly, though decreasing in intensity, along the upper part of the sternum, in the subclavian and carotid arteries, and on the left of the spine, in the interscapular and dorsal regions. It was also heard, less distinctly, in a line from between the nipple and the sternum towards the middle of the left clavicle. Below the level of the nipple the murmur became shorter and more feeble, and, at the point of pulsation of the apex, towards the epigastrium, and on the right side of the lower half of the sternum, it was followed by a very clear second sound.”

Case 110.—“Impulse of the heart rather weak; the first sound shorter and more flapping; the second sound less distinct than natural.”

Case 111.—“\* \* over a large portion of the front of the chest a loud systolic murmur was audible. This murmur was thought to be most intense midway between the left nipple and the sternum, but it was also very distinct from this point towards the middle of the left clavicle, across the sternum to the right side, and along the whole of the middle and lower part of the sternum. In these situations the diastolic murmur was indistinct, but at the upper part of the sternum, and at the point of pulsation of the apex of the heart, the murmur was less intense and prolonged, and the diastolic sound clear. A feeble murmur was audible to the left of the spine in the interscapular space.”

Case 116.—“The two sounds are perceived opposite the apex of the heart; the first a loud, prolonged bellows murmur with a very sensible purring tremor opposite the arterial orifices of the organ, and the second very short and loud. The bellows murmur was very distinct to the top of the sternum, along the course of the pulmonary artery, and limited superiorly by the clavicle, and on the sides by the right edge of the sternum.”

Case 117.—“A loud bruit was heard below the left nipple, and upwards from that spot, and to the right, reaching over the sternum. This bruit accompanied the systole of the heart, and was of a swishing character.” Another

examination: “A loud bruit heard, more especially over the aortic valves; the sound does not extend beyond the arch in the direction of the aorta. A systolic bruit was also heard over the apex.”

The four malformations now considered have a similar effect on the circulation; in all there is obstruction to the current in the right side of the heart. The malformations which we are next to consider have a different effect on the circulation, although the effect as regards the character of the blood is the same.

### FIFTH MALFORMATION.

#### One Auricle and One Ventricle.

Case 120,	10 days.	Case 126,	10½ months.
“ 121, M.	24 hrs.	“ 127,	5 days.
“ 122,	3 days.	“ 128,	7 days.
“ 123,	6 days.	“ 129,	6 days.
“ 124,	8 days.	“ 130,	2 days.
“ 125, F.	4 hrs.	“ 131,	4 months.

In these cases of single heart, or of heart with one auricle and one ventricle, there was frequently the rudiment of another auricle or ventricle, or of both. In No. 120 there was a cul-de-sac in front of the aortic orifice, being, in the opinion of Dr. Peacock, the analogue of the right ventricle. In No. 124 the main auricle was the right dilated, and the left was rudimentary. In No. 125 the right auricle was represented by a sinus, and the right ventricle by a cylindrical sac, the left auricle and ventricle with these exceptions forming the entire heart. In No. 121 the heart is said to have consisted entirely of the right auricle and ventricle, the left side being absent. In No. 127 there was a rudimentary auricle not larger than a horse-bean, and into it the cavæ entered. This small auricle communicated with a cavity not larger than a swan-shot, evidently the representative of the right ventricle. In Case No. 130 there were really two distinct auricles, but practically only one, for there was no communication between the left auricle and the common ventricle, except through the right auricle. In No. 131 the two auricles entered about equally into the formation of the common auricle, but the ventricular portion of the heart consisted of the left ventricle with but a rudiment of the right. In Nos. 122, 126, and 129, no rudimentary cavities were found, and there seemed to be an equal development of the two sides of the heart.

In all the cases in this malformation there was a single auriculo-ventricular orifice, usually guarded by a tricuspid valve, but in No. 125 the valve was mitral; in No. 120 the record states that the orifice was guarded by tendinous valves, and in No. 123 by a valve which was neither tricuspid nor mitral, but resembling the former more than the latter.

The size of the heart in these cases did not differ materially from that of the organ in its normal state, though its shape in some specimens was somewhat changed. The cavæ and pulmonary veins, in entering the auricle, usually preserved their normal relation, but in No. 120 the latter vessels formed a common trunk. In all the cases, one artery only arose from the ventricle, which gave off the pulmonary branches and continued aorta.

The table shows that individuals with this malformation are usually short-lived. All but three died within the first month. The history of a case of this malformation, in which death occurred in twelve hours, was related by Dr. Leigh before the Boston Society for Medical Improvement in April, 1854, but it is not stated whether there was cyanosis. This early death is probably attributable more to the fact that there was only one auriculo-ventricular aperture and one large arterial trunk than to the fact that the auricle and ventricle were single, for, as we shall see hereafter, the patient may live for years, without even cyanosis, with large apertures in the inter-auricular and inter-ventricular septa, provided the orifices and vessels of the heart be of their natural size, and in their natural relation.



No record was made of the character of the heart's sounds, except in two cases. In No. 125 "a marked bellows sound replaced the normal sound of the heart during the diastole." In No. 127 it is stated that the succession of cardiac sounds was regular. The bellows sound observed in the former of these cases differed from that occurring in the *First Malformation* in that one accompanied the diastole, the other the systole.

## SIXTH MALFORMATION

*Two Auricles and one Ventricle.*

Case 132, M., 22 years.	Case 135, 10 weeks.
" 133, M., 22 years.	" 136, M., 11 years.
" 134, M., 16 years.	" 137, M. 9 mos.

Although in this malformation there were two distinct auricles, they were in all the cases connected by an open foramen ovale, unless in No. 136, the complete records of which I have not had access to. There was an auriculo-ventricular aperture for each auricle, usually guarded by the proper valve. The ventricle gave origin to the aorta, of large size and with perfect valves, and to the pulmonary artery. The latter vessel in No. 133 was much contracted; in No. 132 its valves were imperfect; in No. 134 its valves were adherent, forming a ring; in No. 135 this artery was impervious, ending in a cul-de-sac. There was, generally, a pretty uniform development of the ventricular walls. In Case 137, which occurred in the practice of the late Dr. Hoffman of this city, there were two ventricles, but the left was rudimentary; the auricles communicated by separate orifices with the left ventricle, and from this ventricle both the pulmonary artery and aorta arose, the former vessel scarcely one-fourth the size of the latter. This malformation differs from the preceding, not only in the fact that there are two auricles, but that each has an independent connexion with the ventricle, and usually the ventricle gives origin to a pulmonary artery as well as aorta, and therefore there is much less intermingling of blood. There are several recorded cases of this malformation in which there was no cyanosis, and in some of these there was only one arterial trunk connected with the common ventricle. There is no record of the sounds of the heart in the cyanotic cases of this malformation, but in one in which there was no cyanosis, narrated to the London Path. Soc. by Dr. Hale, in 1853, the following record was made: "a superficial bellows and whizzing sound at the sternum, near the third costal cartilage. Over the apex of the heart loud bruits were heard of a rapid and indistinct character."

## SEVENTH MALFORMATION.

*A Single Auriculo-Ventricular Opening: Inter-Auricular and Inter-Ventricular Septa Incomplete.*

Case 138, F. 6 years.

This malformation, of which there is one recorded case, is closely allied to the two preceding. The single auriculo-ventricular orifice in this specimen was placed centrally, and was furnished with a perfect tricuspid valve. The foramen ovale was largely open, and the septum above, as well as that below the tricuspid valve, was considerably deficient. Nothing unusual was observed in the pulmonary artery and aorta and their valves, except that the former vessel was relatively small. There is no record of the sounds of the heart in this case.

## EIGHTH MALFORMATION.

*Mitral Orifice Closed or Contracted.*

Case 139, M., 4 years.	Case 141, F., 22 months.
" 140, M., 57 years.	

In Nos. 139 and 141 the mitral orifice was entirely closed, and in No. 140 it was contracted, but pervious. In all these cases there was an opening in the septum auricularum, so that the current of arterial blood obstructed at the mitral orifice escaped into the opposite auricle and mingled with the venous blood. The current, then, with the exception of the little which in one case passed through the

mitral orifice, entered the right ventricle, and as in all the cases the aorta arose in part from this ventricle, it then divided, some entering the aorta, the rest the pulmonary artery. The circulation in this malformation is very similar to that in the heart containing two or three cavities. The state of the heart in No. 141 is worthy of especial notice. There was complete transposition of the two sides with their vessels. The cavæ, tricuspid orifice and valves, and the pulmonary artery, were on the left side; the pulmonary veins and aorta on the right side. From the transposition being complete, it is probable there would have been no harm to the patient had there been a perfect mitral orifice. There is no record of auscultation in any of these cases.

## NINTH MALFORMATION.

*Aorta Absent, Rudimentary, Impervious, or Partially Obstructed.*

Case 142, M., 21 years.	Case 144, M., 6 months.
" 143, 4 days.	

Although the aortic orifice is so frequently the seat of disease in the adult, it is rarely the seat of malformation. In the above three cases, however, the cyanosis was attributed to congenital obstruction at this point. In No. 142 the aorta was contracted to one-third its normal size, and its semilunar valves were insufficient. In No. 143 there was no aortic orifice; in No. 144 the aortic orifice was not only contracted, but the valves were thickened, and two in number. In all these cases there were communications between the two sides of the heart. In No. 142 the septum of the auricles was absent; that of the ventricles imperfect; in No. 143, the ductus arteriosus and foramen ovale were open, and the former was also pervious in No. 144. The right side of the heart and the pulmonary artery were either in their natural state or enlarged. A record of auscultation was made in one case, No. 142; " \* \* \* a *bruit de soufflet*, beginning with the first sound of the heart, was heard, and prolonged so as to obscure the second sound; heard with greatest intensity under the middle bone of the sternum."

## TENTH MALFORMATION.

*Aortic and the Left Auriculo-Ventricular Orifices Impervious or Contracted.*

Case 145, 21 hours.

This malformation corresponds with the third on the opposite side of the heart. In the one specimen in which it was present the mitral and aortic orifices were much contracted, the latter to the diameter of two lines; the left ventricle was nearly obliterated; the ductus arteriosus was pervious and of large size.

## ELEVENTH MALFORMATION.

*Aorta and Pulmonary Artery Transposed.*

Case 146, M., 10 months.	Case 153, M., 5 months.
" 147, F., 7 months.	" 154, M., 2 months.
" 148, 18 days.	" 155, 3 years.
" 149, F., 2 or 3 days.	" 156, 2 yrs., 9 mos.
" 150, F., 2 days.	" 157, F., 15 weeks.
" 151, 2 months.	" 158, F., 10 hours.
" 152, M., 10 weeks.	" 159, 2½ years.

These were not, properly speaking, cases of malformation, but of malposition of the two great arterial trunks. With the exception of this transposition, and the apertures in the inter-auricular and inter-ventricular septa, the heart and its vessels were in their normal states in all the cases but one. In No. 146 the mitral and tricuspid valves were also transposed.

In this curious malformation, the blood returning to the heart by the cavæ enters the aorta without being arterialized, and is again distributed to the system. On the left side of the heart, the blood returning from the lungs is sent back to the lungs through the pulmonary artery. It is evident that in such a malformation, the two circulating currents must be almost as distinct as in two individuals, and

life could not be prolonged for an hour were it not for the resources of nature in compensating for vices of organization. In all the cases there was communication between the two circulatory systems, either by openings in the septa, or by the ductus arteriosus, or by both.

The ductus arteriosus was open in nine cases, closed in three, not found in one, and its condition not noted in one. In thirteen cases the foramen ovale was open, and in the remaining case its condition was not mentioned. The inter-ventricular septum was complete in five cases, deficient in three, and no mention made of it in six. In one case, that narrated by Prof. Walshe, there is a record of auscultation as follows: "No abnormal murmur in the cardiac region or in the course of the great vessels; heart's action tumultuous, impulse strong and widely diffused."

#### TWELFTH MALFORMATION.

##### *The Cava Entering the Left Auricle.*

Case 160, F., 1 year.

The heart in this case was thick at the apex, so as to present rather a cuboidal shape. The septum auricularum was absent, the septum ventriculorum imperfect at the base; there were two descending cavæ, one of which entered the right, the other the left auricle; the ascending cava entered the left auricle; the aorta arose from both ventricles; the pulmonary veins and artery were in the usual situation, the latter of small size. The circulation in this malformation is evidently very similar to that in cases of a single auricle and single ventricle. The character of the sounds of the heart is not mentioned.

#### THIRTEENTH MALFORMATION.

##### *Pulmonary Veins Opening into the Right Auricle or into the Cava or Azygos Veins.*

Case 161, F., 45 years. | Case 162, 2 yrs., 2 mos.

In the first of these cases the four pulmonary veins entered the right auricle. In the second case they were not observed, but did not open into either auricle, so that they must have entered the superior cava or the azygos veins. In both cases the right side of the heart and the pulmonary artery were largely developed, the left side of the heart and the aorta comparatively small. In both the septum of the auricles was imperfect, so that a part of the mixed current passed successively into the left auricle, left ventricle, and the aorta, but the larger portion entered the pulmonary artery. In one case the ductus arteriosus was impervious, in the other its condition is not stated. In neither is mention made of the inter-ventricular septum, or of the sounds of the heart.

#### FOURTEENTH MALFORMATION.

##### *Aorta Impervious or Contracted near its point of union with the Ductus Arteriosus; Pulmonary Artery wholly or in part Supplying Blood to the Descending Aorta through the Ductus Arteriosus.*

Case 163, M., 5 days. | Case 164, M., 15 months.

There are no fewer than eight published cases of this malformation, but one was still-born; three were not cyanotic, in at least two of which there was compensation for the obstruction; and two others may or may not have been cyanotic, as I have not had access to the original and complete records. The specimens in the two cases tabulated above differed somewhat. In Cooper's case the aorta furnished the innominata and the left carotid and subclavian. In Schilling's the aorta furnished the two carotid arteries, and the two subclavians arose from the pulmonary artery. In both the foramen ovale was open, and the pulmonary artery, which was of large size, arose from both ventricles. This vessel, therefore, received mixed arterial and venous blood, which it conveyed partly to the lungs, partly to the trunk and lower extremities, and in Schilling's patient to the upper extremities. The aorta conveyed arterial blood to the neck and head, and in Cooper's patient to the upper extremities; in both patients the two currents being probably more or less mixed through the foramen

ovale. In case 164 there is a record of the "heart's pulsations;" they "were tumultuous and rapid, and felt as a purring tremor."

## Original Communications.

### GUNSHOT WOUNDS OF JOINTS.

By DE WITT C. PETERS, ASST. SURG. U.S.A.

SURGEON IN CHARGE OF JARVIS GEN'L HOSPITAL, BALTIMORE, MD.

THE investigation and study of these injuries are at the same time the most interesting and perplexing that come under the observation of the military surgeon of the present day. The rule to amputate or even to resect a joint because it has been complicated by a gunshot wound, meets often in our practice with important exceptions. In General Hospitals, where we usually see our cases in a secondary condition, wounds of great joints require only the laws of conservative surgery to be employed in their treatment, when the results will frequently prove most gratifying. In these remarks it is not my intention to review the vast subject of these injuries, but I shall simply give my opinion in the management of several of the individual joints when wounded by missiles. At the shoulder-joint the complication may rest solely in exposing and opening to a greater or minor degree the *synovial membrane*, or we may have a compound comminuted fracturing of the bone entering into the formation of joint. There is still another class of cases where the ball (especially if it be a small-sized one) passes directly through the head of the humerus without either splitting or materially disturbing the general contour of the bone. From the battle-field of Gettysburg an interesting case of this latter series was sent to this hospital. The soldier had been wounded in the left shoulder, and, on admission, the joint and surrounding tissues were found greatly distended by healthy pus, the exit of which was partly prevented by the valvular condition of the posterior and lower wound. An operation was deemed necessary; the man was placed on the table and etherized, with the view of first making an exploration and then accomplishing what nature seemed to indicate. A straight incision was made in the course of the deltoid muscle, commencing at the acromion process and extending downwards for the distance of about three and a half inches. The incision gave free vent to a large quantity of pus and revealed the nature of the injury, viz. there was a direct opening through the head of the humerus and no true fracture. The parts were left open and dressed with simple dressings, and it has nearly healed at the present time, with every indication that the man can be again returned to active service. In all cases of wounds of the great joints we have attempted to save the limbs, with what success the annexed table will show. If the bones are comminuted a free incision is made in a favorable position; all fragments are removed and sharp spicula are trimmed with the bone forceps. The wounds are afterwards treated with the expectation of gaining a false joint, or at least ankylosis. The amount of bone resected depends on the amount of primary injury, always trying to save as much bony material as remained sound in the first instance. Our resections, therefore, are not governed by any general rules, but rather by the nature of the injuries. In a few instances the damage to the soft parts, vessels, and bony structure, has been such as to require amputation. In these cases the external appearance of the joints has been such as, by inspection, to warrant a belief that the limb might be saved, whereas the explorative operation has decided the case adversely. The probe and finger may fail (when the parts are greatly swollen and the openings small) to give us a correct idea of the state of the internal condition; but a few incisions decide the matter, and by removing the fragments, which will certainly die, the surgeon accomplishes his purpose. In speaking of

gunshot wounds in general, Stromeyer justly remarks that "those cases proceed the best which are not meddled with. It would therefore appear that haste of the surgeon to do something is not always of service to his patient." This I conceive to be the error, if we are tied down by any set rules (either to amputate or resect) which are for the time-being customary. A friend\* of mine, who has been a hunter of repute in the West for many years, received in a skirmish with the Black Feet Indians, a gunshot wound of the left shoulder, which completely shattered the bones of the joint; without any attention, save such as his unprofessional comrades could give him, he recovered. On examination years afterwards I could see the cicatrices, and found the head of the humerus enlarged and irregular in shape, yet by use he had overcome all obstacles and had regained the free use of the joint. Had he been seen by a surgeon when wounded, an operation would have been recommended, but certainly under it his case could not have terminated more successfully. The exposing of the cavity of any joint is a grave injury, for we all know the alarming symptoms that are prone to follow; but it appears to me that the danger is not so much due to the entrance of air as to allowing pus to be so closely confined, for the wounds of joints are in the majority of cases small, and the pus as it forms does not escape freely. Sir Benjamin Brodie recommends free incision in these cases, and my own observation has convinced me of the correctness of his conclusions. After the battle of Gettysburg we had quite a number of wounds of the knee and elbow joints, which we treated by free incisions (where indicated), rest in an easy posture, loose dressings, and constant irrigation by means of the syphon. Our men were much broken down by hard service, and had a tendency to scurvy. Notwithstanding these disadvantages they have progressed favorably. In a very few instances they have terminated fatally from pyæmia (when the wounds were of the knee-joint); still, to all appearances, for a time, they locally presented the most encouraging symptoms. The fearful omen of a chill was the first indication that warned us of the constitutional troubles we might anticipate, and which invariably terminated these cases in dissolution. The gunshot wounds of the elbow-joint, enumerated in the table, we treated by resting the limb bent at a right angle on a grooved tin splint which had been previously well padded with tow. They were retained in this position by loose bandages, the wounds were kept clean, and the patient, as soon as able, was made to exercise in the open air, and attention was paid to passive motion. The diet of these patients must be generous, and malt liquors are to be ordered them to support their strength. The diet of a soldier in the field is substantial, but it is not sufficiently mixed to be healthy; that is, he does not have the opportunity to obtain his customary amount of vegetables, and it has been found in General Hospitals, where the men are supplied with these articles, that their condition is much improved, and indeed, in most chronic complaints, a wonderful change is worked under their use. The plan of treatment to be adopted in every case of gunshot wound of the knee-joint cannot, for a variety of reasons, be so uniform as in the former series. The patient's feelings are to be consulted as to the apparatus to be used in keeping the limb and joint at rest and free from unsupportable pain. It has been our habit to give preference to either the double-inclined plane or Smith's anterior splint, and when these have not felt comfortable to the patient we have tried with success a sort of cradle where the limb rests at will on strips of bandage made fast on each side to the frame of the apparatus. The wounded part is left open and free irrigation is kept, and as the incisions close, leaving sinuses, these are cleaned daily by injections, and among the best of the latter we have found to be a weak solution of permanganate of potash. The incisions into the joint are only made when the pus accumulates so as to be distinctly recognisable and has no free means of escape. The result we hope for is ankylosis, as a false

joint appears interdicted by nature, and in our endeavors to gain this end we pay particular attention to the position of the limb in order that it may be useful to the patient in after life. The cases under consideration are generally tedious in their recovery, and require an equal amount of patience and perseverance on the part of the surgeon in treating them. In the healing of compound fractures of great joints we have the opportunity of distinguishing the division made by Dupuytren of primary, secondary, and tertiary splinters of bone. The first comprise the loose fragments remaining after the injury is received, the second those still hanging to the soft parts, and the third are the result of inflammatory necrosis of the bone. The two former are removed when the operation of resection or partial resection is performed, and the latter is apt to occur as a sequel to the fracture and the operation. The thorough examination of a gunshot wound of a great joint cannot be properly conducted without placing the patient under the influence of an anæsthetic, and in hospital practice sulphuric ether is the safest, and when administered by experienced hands is equally as efficacious as any other anæsthetic. To increase its effects, and render the patient more quickly susceptible to its influence, we have preceded its use by giving the patient to drink two ounces of brandy or whiskey. By the following table it will be seen that we have treated on the principles stated in these remarks 149 cases of gunshot wounds of great joints. The success has not been as great as we would desire, yet it is such as to warrant us (in the present incomplete state of our knowledge) to a continuance of the same.

Tabular Statement of Gunshot Wounds of Great Joints treated in this hospital since June 20th, 1862.

	Side of Body.		For what Performed.		Results.						
	Right.	Left.	Gunshot Wound.	Other Causes.	Total.	Returned to Duty.	Discharged.	Died.	Transferred.	Total.	Remaining under treatment 1862.
Wrist....	2	6	8		8	2	1	2	7	1	8
Elbow....	6	6	12		12	1	2	1	7	9	13
Shoulder..	24	24	48		48	5	2	1	8	45	5
Ankle....	15	20	35		35	3	1	2	25	34	1
Knee....	26	20	46		46	4	6	2	7	41	5
Total....	73	76	149		149	13	11	4	11	139	10

## TREATMENT OF GUNSHOT AND PENETRATING WOUNDS

OF CHEST AND ABDOMEN BY HERMETICALLY SEALING.

By B. HOWARD, M.D. ASSIST. SURG. U.S.A.

SURG. IN CHIEF ARTILLERY BRIGADE, FIFTH CORPS, ARMY OF THE POTOMAC.

No class of cases are so painfully humiliating to the military surgeon as gunshot wounds of the chest. When the call for aid is so peculiarly urgent and distressing the surgeon has been able but to lament his impotence, to hide the wound from view with a simple dressing, and sorrowfully abandon the patient to his fate. It is the appreciation of this that induces me, without waiting for properly arrayed statistics, to write prematurely from the field, and state briefly a plan of treatment which I presume will meet with very marked success, and which has already met with the general commendation of my confrères.

The most formidable symptoms of gunshot wound of the lung, and one or more of which in their proper order produce death in fatal cases, are, *Hæmorrhage*, *Dyspnoea*, and *Suppuration*.

The custom of leaving the wound open is objectionable because it affords a means of outflow as fast as the effused

\* Kit Carson.

blood reaches its level, and thus favors the continuance of *Hæmorrhage*.

It allows the full force of atmospheric pressure upon the entire surface of the lungs, and thus necessitates *Dyspnoea*.

It admits continually renewed currents of atmospheric air ensuring decomposition of the clot in the pleural cavity with extensive and profuse *suppuration* of a very foetid character, while it does not provide for its exit until after so great an amount has accumulated as to have caused it to rise above the level of the wound; and after its partial subsidence by overflow the wound again ceases to be available.

Suppose, however, that the wound be perfectly closed, the following will at once appear among the advantages to be gained.

1st. *Hæmorrhage* is controlled. At the worst the amount of blood lost after the operation cannot be more than would suffice to fill up the unoccupied space remaining in the pleural cavity; the elastic clot resulting, furnishing a styptic par-excellence for the wounded vessels of the yielding lung.

2d. *Dyspnoea* is immediately relieved upon removal of the atmospheric pressure, and the restoration of the parts approximately to their normal condition.

The inclosed volume of air being absorbed, the lung is again at liberty to expand with its usual freedom, limited only in proportion to the size of the clot which may happen to be in the pleural cavity.

3d. *Suppuration*, if not prevented, is greatly diminished by shutting out the constantly renewed currents of atmospheric air, and its character is very favorably modified.

Indeed if the wound were closed soon enough, I deem it possible that the slough of the track through the lung, with the limited amount of attendant pus, might be entirely disposed of by absorption and expectoration. The operation which I practise is by hermetically sealing as follows:—

All accessible foreign bodies having been removed, introduce the point of a sharp-pointed bistoury perpendicularly to the surface just beyond the contused portion, and with a sawing motion pare the entire circumference of the wound, converting it into a simple incised wound of an elliptical form; dissect away all the injured parts down to the ribs, then bring the edges of the wound together with silver sutures deeply inserted, at not more than a quarter of an inch apart; secure them by twisting the ends, which are then cut off short and turned down out of the way. Carefully dry the surface, and with a camel's hair pencil apply a free coating of collodion over the wound; let it dry, and repeat it at discretion.

For greater security shreds of charpie may now be arrayed crosswise over the wound after the manner of warp and woof—saturate it with collodion, and when dry repeat the process until the wound is securely cemented over: as a still greater protection a dossil of lint may then be placed over the part and retained with adhesive straps.

If there be a tendency to undue heat in the part it may be kept down with cold affusion; should any loosening of the dressing occur an additional coating of collodion may be applied. The sutures must not be removed until healing by *first intention* is complete.

Should suppuration occur so as to occasion distressing dyspnoea, proceed to treat it in all respects as a case of empyema, introducing the trocar at the most dependent point, and taking special care to avoid the admission of air.

My first experiment in hermetically sealing was in a bayonet wound of the abdomen in a private of the 18th U. S. Infantry in 1861, which was followed by the best results. Since then I have deemed it the most eligible treatment for gunshot and penetrating wounds of closed cavities when not contra-indicated by serious complication. In incised or punctured wounds the paring process is of course dispensed with.

Practically the immediate results have been very remarkable, and I think unprecedented. The most painful cases of dyspnoea have been promptly relieved, the patient

usually falling into a quiet slumber in about an hour after the operation, as in a case observed by my friends, Dr. Clements, U.S.A., Asst. Med. Director Army of the Potomac, and Dr. Taylor, U.S.V., Med. Inspector Army of the Potomac, and many others. The subsequent results, also, so far as I have been able to continue the treatment, have never disappointed my expectations.

I have obtained healing by first intention, and removed the sutures within five days after the operation. This mode of treatment by hermetically sealing has, I believe, never been practised before, though the principle of excluding the atmospheric air in gunshot wounds of the chest has been endeavored to be carried out by various expedients with relative advantages corresponding to the completeness of the occlusion effected.

Dr. Barnes, Med. Inspector-Gen. and Act. Surg-Gen. U.S.A., informs me he once treated a gunshot wound of the lung by stopping up the aperture with a conical tent made of a pouch of cloth filled with lint, its apex being fastened to a roller bandage. The dyspnoea was greatly diminished, healing by granulation took place, the case progressed unusually well, and terminated in recovery.

Neither in the Western nor Eastern Armies, however, have I seen any attempt at closing the wound; a covering of adhesive plaster or simple dressing is the only application I have seen used.

I think it will appear evident that the simple causes of fatality in gunshot wounds of the lung, and which have heretofore proceeded or abated uncontrolled by art, may each in their proper order be restrained and modified, if not prevented or removed, by the simple operation above described, which in the worst event cannot possibly incur any risk of additional harm to the patient. Though the careful continuance of the treatment so necessary to proper success be certain to be interfered with in the successive transfers of the patients to the care of different medical officers, it should not prevent the performance of the operation at any time within forty-eight hours after the reception of the wound, as it may enable the patient to survive the shock and the transportation to the General Hospital, by which time a very dangerous period will have passed.

Some cases upon which I operated were six days in the ambulances, before reaching a General Hospital, part of the road travelled being of the worst description; on the fifth day all but one of these so treated were able to walk comfortably. On their arrival all the wounds were unfortunately reopened, except when the union was too complete to allow of it, and the usual water-dressing was substituted. Yet the ratio of mortality of the whole number wounded in the lung in that engagement, and which were treated indiscriminately, was nineteen per cent. less, dating from the time the wounds were received, than that of the cases previously admitted to that hospital dating from the time of their entering the hospital. Though but five cases, their corroboration under the circumstances is valuable. When speaking of the whole number wounded, I omit one case in which I had not time to close the posterior wound from which profuse hemorrhage subsequently occurred, and in two days after which the patient died.

CAMP ON RAFFAHANNOCK, VA. Sept. 14th, 1868.

DR. MACDONALD, agent of the Sanitary Commission, taken prisoner at Gettysburg, has just been released by the rebel authorities on parole.

WORK OF THE SANITARY COMMISSION.—The following list of articles was sent to Vicksburg during one week by the Chicago Sanitary Commission. The shipment involved an outlay of \$9,000, on the part of the benevolent and patriotic Northwest. 200 tons ice, 1,000 bottles lemon syrup, 200 barrels soda crackers, 20 barrels dry peaches, 20 barrels dry apples, 5,000 codfish, 50 caddies green teas, 50 half barrels crushed sugar, 50 ounces quinine, 50 barrels stock ale, 100 quarter barrels stock ale, 50 half barrels stock ale, 200 musquito bars, 10½ barrels pickled cabbage, 225 palm leaf fans, and 2,000 cans concentrated milk.

## REMARKS ON TETANUS, WITH HISTORIES OF NINE CASES.

By W. H. BUTLER, M.D., Acting Assist. Surgeon U.S.A.  
I HAVE collected the following histories of nine cases of traumatic tetanus, the result of gun-shot wounds, from the medical men who treated them, gleaned additional facts in a few cases from the patients themselves, or their attendants. Imperfect as they are, they are given to the profession not for any predetermined purpose—to support any theory; but with the conviction that they possess some value, and should be preserved.

They are of interest in connexion with the statistics of the hospital in which they have occurred. For instance, it appears that from August 7th, 1862, to April 1st, 1863, there were received into this hospital

Of sick 2918

"wounded 1228 — 4146.

During this period 7 of the nine cases occurred, and all the deaths from this disease—five;—the total number of deaths from all causes being—same period—293, or one death by tetanus to 58 by other causes.

Taking in the year the ratio is greatly decreased, viz.

Whole number of patients admitted to July 31st, 1863, 4,740.

Whole number of patients died to July 31st, 1863, 394.

One death by tetanus to 79 from other causes.

Seven of the cases were complete, i.e. the disease affected the jaw and muscles of the extremities: three of this number died: while of the two incomplete cases, or where only trismus was present as a marked symptom, both died.

In one case, that of Bomer, the disease seemed to be due to ligation of a nerve.

A majority of the cases have occurred among those of a sanguine nervous temperament, and mostly between 23 and 30 years of age, but one having reached 40 (Jarmo, who died).

The tetanic seizures came on at periods varying from (supposed in one case) immediately after reception of injury to 24 days after, the average of the eight cases in which it is stated being ten and three fourth days.

In 5 cases the missile was supposed to be a minié ball—in one case, "Elder's," not stated, I presume it was also a bullet; the remaining 3 being from shell, and singularly enough all recovered.

Six wounds were of the lower extremities, one of the nates, one of arm, and one not stated.

In but few of the cases, so far as the point could be ascertained, was the weather warm or moist, nor did any sudden change take place.

Four of the cases came from injuries received at the battle of Fredericksburg, December 13th, 1862, the thermometer at the U.S. Observatory, Washington (about the same latitude), indicating 39°, dew-point 34°, weather cloudy; 14th, clear and cloudy, thermometer 45°, D.P. 41°; 15th, cloudy, 56° D.P. 48°.

Two cases from Bull Run, August 30th, 1862, thermometer 67°, D.P. 58°, cloudy. September 1st, thermometer 71°, D.P. 67°.

A rain began on the 31st, which had become "heavy" on September 1st.

Three cases followed Chancellorsville, May 3d, 1863, the mercury indicating that day 65° D.P. 52°, clear; 4th, 64°—58°, cloudy and raining; 5th, 59°—57°, cloudy and raining.

It is questionable perhaps whether the state of the weather on the days I have indicated, influenced to any degree the causation of the maladies; I have mentioned it, as the facts were at my hand. In the treatment reliance has been had on opiates, a somewhat novel feature being introduced by Dr. Bowen in the administration of mustard. Judging from the general fatality of this disease, it would seem as though unusual good results had been obtained: the mortality being 5.9 only of the number attacked.

Albert W. Gallatin, Co. B, 142 Penn. Vols. Age 23. Entered Hospital Dec. 21st, 1862. Sanguino-nervous

temperament, dark eyes, generally strong and healthy. His father died five years ago of apoplexy. His mother is now living. He was wounded at the Battle of Fredericksburg, December 13th, 1862, by a minié ball passing in over the fifth metatarsal bone, one inch above articulation of little toe, passing inward and lodging over third metatarsal bone of left foot. After the reception of the wound it was not dressed for two days, and the foot was swollen tight in the shoe. He walked very little on it. He had no disease about him at the time. The wound was very painful, having intermissions through the day; it was generally worse at night, and he could not sleep. He had simple dressing to wound, but no medicine of any kind before he entered the hospital. Had had ordinary diet. About three weeks after the injury a few small pieces of bone came out of the wound. About January 1st, 1863, he began to have tetanic symptoms. The pain greatly increased in the foot during the day of the tetanic seizure, which came on at evening. A difficulty of breathing was first noticed, and Dr. Stanley, whose patient he was, and who was present, says he had a spasm of the diaphragm and legs, the latter stiffened out. He was given at once 1 gr. of morphia and 10 drops tr. Indian hemp, the latter to be given every three hours; warm water fomentations were applied to the wound. The second day the spasms returned more violently. He had no *opisthotonos*, but *risus sardonius* and rigidity of arms and legs were marked. He had trismus on this and the third and fourth days for a short time each day—most at evening—and all the symptoms increased at night. The general treatment was tr. Indian hemp 10 drops as often as every three hours; ether. sulph. 3 i. every quarter to every hour, and morphia gr. j. as the symptoms increased. The diet was principally beef tea, which was given as often as the patient would take it, a few ounces at a time. The third day Dr. S. put 30 grs. of morphia in the wound, which presented a wide open surface. The wound at beginning of disease had a bad look, and the suppuration was not healthy; considerable fetor was noticed.

On entering the hospital the patient told the Doctor it was a shell wound; the probe did not detect any thing, and it was not suspected by either patient or Doctor that any foreign substance was present. The patient recovered in seven days. On the 25th day of January the ball (a minié) made its appearance at the orifice, and was extracted.

D. Jarmo, age about forty, of a nervous temperament, dark hair and eyes, was wounded Dec. 13th, 1862, at the Battle of Fredericksburg, a ball passing across and fracturing both tibias, and wounding or destroying a portion of both anterior tibial nerves. Entered Ward Hunter, Dr. Bowen, Dec. 20th, 1862. Pain was intense from time of injury till death. The wound had not been dressed for three days previous to entry. On admission the wounds presented a very unpromising appearance, being covered with gangrenous sloughs, and discharging a thick black offensive fluid. Several pieces of bone were removed, and gentle support given both legs by lateral splints. To the wounded and sloughing surfaces, linseed meal, charcoal and pulv. cinchonæ made into a poultice, were applied. Internally opii gr. j. every two hours; tr. cannabis indicæ f. 3 i every three hours.

This patient had constant spasmodic twitchings of both upper and lower extremities; when he entered and after, all the symptoms aggravated at night; bowels rather constipated. Trismus was constant the last three days; had difficulty of swallowing and respiration. The spasm of the diaphragm was the first symptom noticed. There was permanent rigidity of the muscles; could not feed himself; had *emprosthotonos*; would bend forward in bed; died in four days after admission.

Sergt. W. B. Elder, Co. B, 91st Penn. Vols., was wounded at the Battle of Fredericksburg in the right thigh (upper third); it was amputated on the field; also by a minié ball passing through bones of wrist. Patient of good constitution; of sanguino-nervous temperament.

Admitted into Armory Square Hospital Dec. 20th, 1862, and first came under the care of Dr. Shoney—having tetanic seizures. For this the Doctor applied the direct electric current, which he thinks improved his condition; jaw not firmly set at any time; the stump suppurating and appearing in good condition. In about seven days he was transferred to Ward "K," and came under the care of Dr. Mitchell, who reports that the stump looked well and was healing rapidly, but the wound through the wrist and hand was swollen and puffy. At no time did he have opisthotonos or permanent rigidity of muscles of extremities. Rissus sardonius marked with facial twitchings. The trismus was constant. After entering Ward K there was no relaxation of the muscles of the jaw (say for the period of eight days), bowels confined, no operation except from the use of enemas every second day. For this warm water and soapsuds were used. Urine highly colored and scanty. For the first two days sulphine ether was given, which controlled to some extent the facial twitchings and trismus, but not so as to completely relax the jaw. After this he took *tr. cannabis indicæ* M. 40, increased to f3i. as often as every hour, and the extract of poppy was applied to the wound of the wrist. Appetite wanting—was fed liquid food.

Death resulted in about fifteen days after entering the hospital.

William H. Bowers, aged about 23, private 1st N. Y. Battery, of nervous sanguine temperament, blue eyes, brown hair, and seemingly disposed to phthisis.

Entered Armory Square Hospital with amputated left arm at elbow, the condyles being left on. He also had wound of scrotum, the testicle exposed. Both wounds the result of shell received at the battle of Bull Run, August 30, 1862. The arm was amputated on the field three or four hours after the injury. Two ligatures were cut short inside of flap; pain was continuous from time of amputation until nerve was cut. The constant pain in the stump gave the medical officer of his ward (Dr. Bowen) the impression that a nerve had been ligated, and it was resolved on consultation to cut down and see. Dr. Bowen opened the flap, and discovered the ligature, and on tracing it along with scalpel found that the median nerve was ligated, having a large bulbous extremity, and apparently nerve matter exuding from it. The nerve was completely divided above the ligature by Dr. B. About six hours after the division of the nerve pain increased in the stump, and attacked the region of the neck and back with a feeling of rigidity of jaws. R. *tr. opium* and *tr. lupulin* 3i., spts. eth. comp. 3ij. to take at once; two hours after gave the second dose. Passed a very restless night, and in the morning had inclination to vomit. The Doctor gave mustard two table-spoonfuls *aquæ fervent.* Oss. He drank of this nearly all; it did not produce emesis, but seemed to quiet the patient, as he soon after fell into a profound slumber, and so continued until 3 P.M. On awakening he felt relieved from all pain.

The weather at the time was warm and moist, but no sudden change occurred. The patient had spasmodic twitchings of both arms, and this was continuous, also in the muscles of the face and neck. Intellect unimpaired. Swallowing difficult, especially liquids; no appetite; pain in epigastric region. No marked trismus, but spasm of muscles of jaw. The abdominal muscles were drawn tense by the spasm—symptoms increased at night, respirations increased—cold clammy perspiration. Patient recovered from the twitchings and tetanic stiffness after 48 hours, and in four weeks afterwards stump had healed, and the man was discharged from service.

William Luke, æt. about 30, private 1st Massachusetts Volunteers, was wounded August 30, 1862, at the battle of Bull Run, by a minié ball passing through the middle third of right thigh close by the bones. Admitted in Armory Square Hospital, September 2d, 1862. Water dressing was applied for a week, the wound all the time discharging healthy pus, and not very painful. September 9th, jaws began to be stiff with some spasmodic action of muscles; for

this Asafoetida, and after opium and morphine, were given for one day. Flaxseed poultice with *tr. opium* applied to the wound, which had become dryer. September 11, the pains and contractions of the muscles were excessive, having increased greatly in force. R. *Morph. Sulph. gr. j.* every two hours. Treatment continued on the 12th. September 13th, inhalations of chloroform were continued all day, death ensuing in the evening.

Private W. S. Galusha, Co. D, 145th Pa., admitted December 20, died December 26th, 1862. Had gunshot wound received at Fredericksburg. Had trismus twelve hours before death.

Sanford Button, age 22, priv. Co. H., 149th N. Y. was wounded by a piece of shell entering front of right thigh four inches above patella, at the battle of Chancellorsville, May 3d, 1863. Entered Armory Square Hospital, May 7th. The appearance of the wound and patient good. Bowels constipated since injury, a piece of the shell yet in the wound. Dr. Bowen, whose patient he was, thinks a small piece of shell rested on the saphenous vein in the popliteal space. The condition of the patient was not different from that of others about him; he appeared to be doing well until May 27th, when well marked trismus made its appearance. Patient desponding, tried to prevent anything being done for him, considering it useless. Sponging his lips and inhaling air produced spasm of glottis and diaphragm; bowels if anything inclined to constipation, arms and legs rigid, opisthotonos well marked. This was at seven P.M. Chloroform was administered so as to relax the spasm of the jaw, and a wooden peg placed between the teeth, and the following recipe given:—*Opii tinct.* 3ij.; *tr. cannabis indicæ* 3j.; spts. ether. comp. 3ij.; *tr. lupulin.* 3ix.; mix, and give one teaspoonful every half hour. R. *Sinapis* ʒss.; *aquæ bull.* ʒiv.; to drink as much as possible, or have it poured down his throat. The object of giving the mustard was not to produce emesis, but to produce relaxation of the muscles. In addition to these internal remedies three grs. sulph. morphia in solution were thrown into the wound. Treatment continued till next evening, when he had relaxation; some opisthotonos, but felt well; continued all till June 7th, the entire symptoms being relieved. Recovered, and transferred to Baltimore, June 19th.

W. H. Hiles, age 29, Sergt. Co. D, 28th Penn. Vols., was wounded by minié ball at the battle of Chancellorsville, May 3d, 1863, producing fracture of tibia of both legs, in the middle third, ball producing two wounds of exit, posteriorly and laterally, on right leg. Entered Armory Square Hospital May 7th, seven A.M., with developed tetanus. Skin healthy, tongue clean, pulse hardly perceptible at wrist, but arterial action is marked at femoral arteries; is delirious, but can be roused to answer questions correctly; thirst unquenchable; hippocratic countenance; on being spoken to, a forced smile appears on the countenance; no pain in wound except when touched; thinks he caught cold the night after he was wounded, as he was rained on lying on the ground. The wounds are black and gangrenous; have not been redressed since injury. Jaws set, bowels constipated since injury. On entering had marked tetanic spasm, affecting the whole body, producing complete tetanus; these spasms recurred half hourly with marked opisthotonos and trismus: the opisthotonos and trismus were not relaxed.

*Treatment.*—Removed fragments of bone, and applied cinchona and charcoal poultice, and three grs. sulph. morphia to wound every four hours, and directed forty drops of the following mixture every thirty minutes internally. R. *Tr. opii* 3iv.; *tr. cannabis indicæ* 3ij.; M. No effect seemed to follow from the administration of the remedies. He gradually sank and died at seven P.M. of the day of admission.

John E. Tucker, age 20, sanguine nervous temperament, priv. Co. A, 17th Maine Vols., was wounded by the explosion of a shell at the Battle of Chancellorsville, May 3d, which tore away the integument crossing the gluteus muscle, together with a portion of the muscle itself.



Admitted to Ward A, Armory Square Hospital. May 8th.—Patient's health has always been good; has little pain; is cheerful and has a good appetite. Treatment (Ex. Diet); wound covered with lint wet in a weak solution of chloride of zinc, and an anodyne at night. 10th—Applied bread poultice to remove slough. 11th—Added porter to other treatment  $\frac{3}{4}$  j. every four hours. 13th—Wound becoming more painful; appetite good. Continue poultice with olive oil to raw surface. 15th—Complains this A.M. of inability to completely open the jaws; has some rigidity of the muscles of the neck, and a slight degree of opisthotonos; feels well otherwise; has no spasmodic action of the muscles; had morphia. 17th—Jaws nearly closed, can open them but little; neck stiff; has no pain or twitching of the muscles, nor difficulty of deglutition, or respiration; opisthotonos continues about the same, appetite good; wound looking well. Applied flannel wet with turpentine to neck, and covered with oiled silk; morphia gr.  $\frac{1}{4}$  at eight, and gr.  $\frac{1}{4}$  every four hours after; milk punch  $\frac{3}{4}$  a. every four hours. 18—Feeling better, can open a little more; neck not quite so stiff (continue treatment). 19th—Patient complains of application being more heating and painful. Applied cotton batting wet with olive oil to the wound. 20th—Dressed wound with wet lint; patient has not felt so well; there is a good deal of involuntary action of the muscles of the back; can take only liquid food, owing to the closing of the jaws; no difficulty of breathing or swallowing; has had more pain than usual in the wound. Dressed the wound P.M. solution morphia grs. iv. Aquæ  $\frac{3}{4}$  j., and covered with cloths wet with olive oil. 21st—Wound looks finely; slept well, can open mouth more; neck less stiff. Continue treatment; morphia gr.  $\frac{1}{4}$  at eight, and gr.  $\frac{1}{4}$  every hour; was worse towards noon; has a good deal of involuntary movement of the muscles, jerking of the head, etc. Pulse at four P.M. 130°; has not accelerated until to-day, pulse same at nine P.M.; has taken some beef tea; has diet of milk, with milk punch  $\frac{3}{4}$  j. every two or three hours; ten A.M. applied ice along the spine in a hog's intestine, to be renewed every hour. The wound was dressed with morphia gr. v. in solution at eight A.M. and at ten o'clock P.M. S. quinia gr. v. every two hours. The beef tea to be crowded; milk punch  $\frac{3}{4}$  j. every hour if his stomach bears it. At four P.M. he had pil. comp. cathart. No. 4. 22d—Patient better, pulse fallen to 100°, less spasm; can open jaws sufficiently to protrude the tongue, this is covered in the middle with a pale, white, slimy coat, pale red, and thinly coated at the edge. Dressed wound morphia gr. vi. every six hours, and covered as before; keep ice to spine; keep body warm; cont. morphia gr.  $\frac{1}{4}$  every hour, beef tea ad lib. P.M.—Pulse 100°; bowels moved at three P.M.; symptoms continue favorable. 23d—Pulse at three A.M. 120°; patient more restless; drank a pint of beef tea during the night. Nine A.M.—Pulse 100°; is quiet; passes urine without difficulty. 31st—Has continued to improve slowly; treatment continued; spasmodic twitchings have disappeared; trismus not so bad, pulse 111°; morphia is now given gr.  $\frac{1}{4}$  every two hours, and four grs. sprinkled over sore; ice to spine. June 1st—Pulse 90°; sleeps well; bowels open; trismus lessened; spasms almost ceased. 2d—Feels well; no spasms; can protrude his tongue well; the ice was stopped to-day.

The treatment from this to July 10, has been morphia gr.  $\frac{1}{4}$ , when required, at bedtime, pills of ferri et quiniæ citras, gr. iij. ter die; milk punch and tonic treatment generally. From inception of the tetanic symptoms, the patient has lain seven-eighths of the time with his face downwards, an attendant sitting by his side, and preventing the opisthotonos by supporting the head; this position he assumed from choice, on account of the wound.

He has had difficulty from the first in holding his urine, though it has never been retained so as to require the catheter; would often have to wait twenty minutes or more for the flow after he had the vessel in his hands.

This patient was for most of the time under the treatment of Dr. Andrews.

Received a furlough July 10th. Has been heard from since; doing well.

## American Medical Times.

SATURDAY, OCTOBER 3, 1863.

### INDEPENDENCE OF THE ARMY MEDICAL DEPARTMENT.

THE value of the services of our profession in maintaining the strength and efficiency of armies has been acknowledged by every nation. Even in the rudest age of Grecian civilization the skilful surgeon was accounted of more importance to the army than many heroes. Paré demonstrated that fact when, by his presence, he so inspired the garrison at Metz that they made a successful defence. Every civilized nation has made the medical staff an integral part of its military organization. They regard it as the life-preserving and life-saving arm of the service. And history will bear us out in the assertion that the nation which has attached the greatest importance and given the greatest scope to the medical element of its military establishment, has been the most successful in the wars which it has waged. It is a fact easily demonstrated, that many a campaign has failed that would otherwise have proved brilliantly successful, through the neglect of those sanitary regulations which the educated surgeon could suggest and apply, if unfettered by the restrictions which, in his subordinate position, too often surround him.

If the teachings of history and experience are of any value in directing human affairs, it would seem that they ought to lead civilized nations to place the very highest estimate upon the military medical service. It should not only have free play to fulfil its obvious mission of life-saving upon the battle-field, but it should still more importantly be allowed to dictate, or even to command, the conditions on which it discharges its higher obligations of health-preserving, in the camp or in the field. And yet, modern nations, with rare exceptions, present the singular anomaly of consigning the most powerful element of their military organizations to an inferior and subordinate position, where it has neither the right nor the power to exercise fully and freely its humane vocation. The Government of France has made large advances in the recognition of the rights of the medical department of its army. It has given rank to its officers, and rendered it in many important respects independent in its action. The British Government was forced to a recognition of the value of the medical services to the army of the Crimea, and successful efforts were made to place its medical department on a more independent footing.

Our own Government seems less disposed than any of its contemporaries to listen to the voice of reason and experience. The medical department of its army remains where the present war found it, entirely subordinate to other authorities. In its present position it may become the sport of every political trickster, and be perverted to the accomplishment of partisan purposes. Repeatedly during the present war has it become painfully evident that the Medical Bureau must be more or less completely

emancipated from the jurisdiction of State Departments before it can fully accomplish its humane mission of health-preserving and life-saving in the army. Higher officers of Government, having no just appreciation of the duties of the medical service, have controlled the department so as to destroy the efficiency of branches of its organization. A striking but not an isolated example is found in the organization of the Bureau of Medical Inspection. This was a new and most important branch of medical service, requiring for its proper and successful performance persons skilled in sanitary science. And the law expressly provided that the appointments should be immediately made (to give no time for political influences to dictate them), and persons should be selected only from merit and special qualification. Both the regular and volunteer medical staff contained officers of this stamp. But in palpable disregard of law and justice, the nominations were withheld for six months. And, finally, to complete the work of demoralization, a person was placed at the head of the bureau without a solitary qualification to recommend him. If rumor is correct, the appointments were finally thrown into the political lottery. Good names indeed were drawn, but they were in the minority. In the same manner incompetent persons have been forced into the medical staff in defiance of examining boards and protests of the Surgeon-General. In great emergencies, like that occurring at the second Bull Run battle, the existence even of a Medical Bureau has been overlooked, to the infinite detriment of the public service. In like manner important hospitals have been broken up without a word of consultation with the medical authorities. These are but examples illustrating the manner in which the central office of the Medical Department is hampered, and its efforts nullified by powers which from necessity cannot appreciate its requirements.

If we extend our inquiry to the field, we find the medical department laboring under similar embarrassments. It has neither rank nor power adequate to its importance. It is dependent upon other branches of the service for the means of discharging its duties, and must await their convenience. Its stores cannot be moved, its hospitals cannot be built; in a word, it can do nothing without the aid of the quartermaster. Innumerable are the instances in which the medical service has been completely foiled for want of independent action.

We have noticed but a few of the clogs and hindrances to the free and efficient action of the Medical Department of our army. But they will prove sufficient to convince the most sceptical of the necessity of erecting it into an independent branch of the military service. Nothing but the sagacity and persistent energy of SURGEON-GENERAL HAMMOND has enabled the medical department to surmount the obstacles which impede its action, and achieve that measure of success which the soldiers and the people so gratefully acknowledge.

### THE WEEK.

THE English Medical Council have issued the following important recommendations in regard to the primary education of students:

"1. That all students pass an Examination in General Education before they commence their professional studies.

"2. That the time of commencing professional studies shall be understood to be the time of commencing studies

at a medical school, and that no qualifying body be held to have complied with the recommendation of the Council which shall allow the Examination in General Education to be passed after the commencement of professional study.

"5. That no certificate of proficiency in General Education, which does not affirm the proficiency of the candidate in Latin, be deemed a sufficient proof of Preliminary Education previous to the commencement of professional studies.

"7. That without professing to lay down any complete scheme of General Education for persons intending to become members of the medical profession, the Committee recommend that the scheme of Examination in Arts of the licensing bodies be, as nearly as practicable, similar to that of any of the national educational bodies."

SURGEON-GENERAL HAMMOND has completed the inspection of the Department of South Carolina, and is about to proceed to the Department of the Gulf. This inspection will lead to many important improvements relating to the hygiene of the troops, and we can but congratulate the army of that department on the visit of the SURGEON-GENERAL and his personal inquiry into its condition. There is even more need, we believe, of the presence of the Chief in the Medical Department of the Gulf. Medical affairs have not proceeded smoothly there, nor has the health of the army been above criticism. It will require, doubtless, but the presence of the SURGEON-GENERAL and his suggestions to rectify errors.

WE call the especial attention of those of our readers who are interested in Military Surgery to the article on gunshot wounds of the chest by Dr. B. HOWARD, Asst. Surgeon U.S.A. The plan of treatment proposed by him is rational, and commends itself for a fair trial. We understand that the Surgeon-General has ordered, at the next engagement of the Army of the Potomac, that a hospital shall be organized under charge of Dr. HOWARD for the sole purpose of treating gunshot wounds of the chest by the sealing process. The results of his experience will be of great interest to the profession.

The N. Y. County Medical Society will hold its anniversary meeting Oct. 5th, 1863, at which time the election of officers will take place. This society deserves great credit for the activity it has displayed for some time past, and we hope that it will continue to manifest its accustomed zeal in matters which interest the profession. In order to insure this end the officers to be elected should be representative men. Among its members there are plenty who are capable of occupying any office of trust which the Society has at its bestowal, and the members should see to it that none others are chosen.

CONSUMPTION OF SPIRITS AND WINE.—The quantity of home-made spirits retained for consumption as beverage in the United Kingdom in the first half of the year 1863 was 8,946,498 gallons, which is almost precisely the same quantity as in 1862, but 200,000 gallons less than in 1861. There were also 121,958 gallons of methylated spirits. The account of foreign spirits entered for home consumption is made up to the end of the first seven months of the year; the quantity was 2,872,879 gallons,—an increase of above 100,000 gallons over the first seven months of either of the two preceding years; the increase is in brandy.—*Medical Times and Gazette.*

## Reviews.

A TREATISE ON HYGIENE, WITH ESPECIAL REFERENCE TO THE MILITARY SERVICE. By WILLIAM A. HAMMOND, M.D., Surgeon-General U. S. Army; Fellow of the College of Physicians of Philadelphia; Member of the Philadelphia Pathological Society; of the Academy of Natural Sciences; of the American Philosophical Society; Honorary Corresponding Member of the British Medical Association, etc., etc. Philadelphia: J. B. Lippincott & Co. 1863. 8vo. pp. 604.

(Continued from page 150.)

"THE present rebellion," says Dr. Hammond, "has opened our eyes to the evils flowing from the indiscriminate enrolment of men unfit, by reason of physical infirmities, to undergo the hardships incident to a soldier's life." And he states, that in a hospital under his charge in the early part of the war, containing six hundred patients, he discovered at one time, on inspection, fifty-two cases of inguinal hernia. But the evil of such neglect of proper medical inspection of recruits has been partially remedied, and great effort is being made to insure the faithful execution of the duties of medical inspection of recruits and drafted soldiers. The first chapters of this treatise will essentially aid the inspecting surgeon and the medical officers of the Boards of Enrolment. The questions relating to *age, stature, chest-capacity, weight, constitution*, are practically considered; and, in the second, the more important points relating to qualification and disqualification are presented.

In his chapter on RACE, the author furnishes some interesting facts respecting the American Indian and the Negro. His own observations have convinced him of the "manifest inferiority of the American Indians to the whites in muscular strength." And of the negro he states that, "by transferring him to a temperate climate he has positively lost rank physically." The causes of such degeneration of the negro are worthy of more exact inquiry than has hitherto been instituted. It is true, as Dr. Hammond states, that brought to a climate like ours, "the negro becomes tuberculous, just as do lions, tigers, and monkeys, which are transported out of their native land;" but are there not other and more active causes of this degeneration? There is reason for believing that in addition to that tendency to physical degeneration which has been manifested by the African when in an abject condition, and especially when transported to a foreign land, there has been a more far-reaching influence to such degeneration in the shameful amalgamation of this race with the races of the most remote ethnological realms. This important and demoralizing cause of the physical degeneration of races, is fully admitted by the author of this treatise. He states that half-breed Indians are less robust and less prolific than their pure-race progenitors; and that "it is generally the case that the children of parents, *both mulattoes*, are sterile." In discussing this question of the influence of the intermarriage of races, the author states that, "a mixture of the blood of different nations of the same race is better than either of the parent stocks. Those nations are furthest advanced intellectually and physically which are most thoroughly composite in their character." And he remarks, "that numerous examples of the improvement of races have been furnished in the history of the world;" and that "in the United States we have the most striking example of all. Who can doubt that the activity both of mind and body, the ceaseless energy, the superb physical development of the people, are due to the commingling of the blood of all the nations of Europe? To be an American is to be a cosmopolitan."

The frontispiece of this volume presents the strongly contrasted physiognomical peculiarities of the eight realms or races of the human species, and the political economist

and philanthropist may profitably press forward in inquiry and legislation, in reference to the physiological and moral obligations of diverse realms of man; for the advancing light of ethnological and physiological science, as well as the interests of civilization, particularly in the United States, would seem to warrant legal measures for preventing the further ruinous amalgamation of the negro and the white bloods.

In the remaining nine chapters of the second section, the author examines the questions relating to Temperament, Age, Sex, Hereditary Tendencies, Habits, Constitution, etc. Passing these topics, we come to the twenty-nine well arranged chapters respecting *Agents External to the Organism which act upon the Health of Man*. The air, light, clothing, and aliment; the hygienic functions they affect, together with the scientific and economic relations they sustain, are leading themes of inquiry in this principal and most practical section of the book; and they are discussed and elucidated in a style of scientific exactness, clear and practical generalization, and ready application to specific objects, which has so decidedly characterized Dr. HAMMOND's physiological writings from the commencement of his career as an author. We propose to examine the several chapters of this section of the treatise somewhat in detail, for they comprise the questions that most concern the hygienist and the military medical officer.

*The Atmosphere and its Non-Essential Constituents.*—From his own experiments and examination of evidence in reference to the contamination of crowded apartments, Dr. Hammond concludes that not only carbonic acid gas, but the organic matter exhaled from the living body, is most at fault in poisoning the air of close and crowded quarters.

The following experiment, like Regnault's, seems to prove that carbonic acid cannot be regarded as an absolute poison:—

"I confined a sparrow under a large bell-glass, having two openings. Through one of these I introduced every hour 1000 cubic inches of an atmosphere, containing 45 parts of oxygen, 30 of nitrogen, and 25 of carbonic acid, allowing the vitiated air which the animal had respired partially to escape. At the end of twelve hours the bird was in as good a condition as at the commencement of the experiment, and when the bell-glass was raised it flew away as if nothing had happened to it. A mouse subjected to a similar experiment also suffered no inconvenience."

The vital importance of cleansing the atmosphere of hospital wards, barracks, and crowded transports, of the effete or exhaled organic matter that accumulates in such places, needs to be kept in view in all plans for their ventilation. The organic matters exhaled from the human body, when such effete elements accumulate to a certain degree, unquestionably act poisonously and with deadly certainty. Hence the necessity of such means of ventilation as will secure effectual perfusion of the air which immediately surrounds the person, the bed, etc. From our own observations and practical convictions upon this subject, we could wish that Dr. Hammond had even more fully illustrated its applications in his excellent chapter upon Ventilation. But in no other hygienic treatise do we find the chemistry of the atmosphere and the rationale of air-supply or ventilation so lucidly treated. The chapters devoted to hospitals and hospital construction largely develop the advanced views and accurate knowledge which the author of this volume is admitted to possess.

Repeating and verifying many experimental observations upon the more important accidental constituents of the atmosphere, Dr. Hammond has found sulphureted hydrogen to be exceedingly deleterious to animal life. His experiments verify those of Dupuytren, that an atmosphere contaminated by 1-800th of this gas proves fatally poisonous to small animals in a few seconds; and that "these animals, if placed under a bell-glass containing pure sulphureted hydrogen, died immediately, without any convulsive action." Also, that "on post-mortem examination

the blood was found perfectly dissolved, and the blood-corpuscles completely broken down." His experiments with ozone show, that, while it is powerfully antiseptic, even so small a proportion as 1-1000th part of this allotropic oxygen, when mixed in the atmosphere, will destroy the life of mice or other small animals. Generally, his experiments have verified those of Schönbein, and he says: "There is every appearance that a vast field of inquiry exists in this direction, the investigation of which cannot fail to enlighten us relative to the causation of many diseases which now defy our utmost power of research."

Dr. Hammond's observations upon the organic matters found in the atmosphere, under the various circumstances that concern the hygienist, are replete with practical suggestion. Though scattered through several chapters, we will refer to them here. The improved and delicate means of estimating the presence and quantity of organic matter contaminating the air, the relations which such matters sustain to the etiology of various diseases and their localizing causes, and the importance of specific sanitary measures for neutralizing or destroying the morbid effects of such adventitious morphological and putrefactive elements of the air we respire, warrant the hygienist in striving to obtain a more perfect knowledge of these sources of insalubrity. The following quotations, from scattered paragraphs on this subject in the volume before us, will present points of special interest to every reader:—

"The various living animals and vegetables of the earth give off emanations from their bodies, either in a gaseous or morphological state, which are received into the atmosphere, and affect in greater or less degree the hygienic condition of man. To the organic matters emanating from the human body, more than to any other cause, the injurious results of overcrowding are to be ascribed. \* \* \* They are absorbed by the clothing, the bedding, the carpets, the curtains, and many other materials, and even the walls of the rooms inhabited take them up and retain them for a long time. \* \* \* The emanations from the human body are of a decidedly deleterious character when present in large amounts in the atmosphere inhaled. \* \* I have collected the water given off by the lungs and skin, and have always found it to contain organic matter, as indicated by the solution of permanganate of potassa. Moreover, the fact that this water undergoes putrefaction very readily, is another evidence that it contains organic matter."

"When we enter a room in which many persons are contained, we are struck with the oppressive character of the air. That it is not altogether due to the presence of carbonic acid, is very apparent from the peculiar odor which is evolved. The same is true of a chamber in which any one has slept, and which has not yet been purified by ventilation, or of the bed which has been lain in."

Having quoted a variety of illustrative instances of fatal diseases and sudden deaths from respiring air charged with organic matters, the author says: \* \* My own experiments are to the same point. I confined a mouse in a large jar, in which were suspended several sponges saturated with baryta-water; by this means the carbonic acid was removed as fast as formed, as was proven by the fact that on causing a portion of the air in the bell-glass to pass through baryta-water no carbonate of baryta was formed. Fresh air was supplied as fast as was required, by means of a tube communicating with the bell-glass and closed by a little water in the bend of the tube, which acted as a valve. \* \* \* The watery vapor exhaled by the animal was absorbed by two or three small pieces of chloride of calcium. \* \* \* The mouse subjected to this experiment died in forty-five minutes. The observation was repeated many times, and death invariably ensued in less than an hour. On causing the vitiated air to pass through a solution of permanganate of potassa, the presence of organic matters, in large quantities was at once demonstrated."

"There can be no doubt, therefore, that the organic emanations from the bodies of man and other animals, in a condition of comparative health, are positively noxious, or

that too much care cannot be taken to rid our habitations of them. When persons not in sound health are crowded together, we can at once perceive that the exhalations given off from their bodies are possessed of still greater deleterious properties. \* \* The exhalations in question cling to the clothing, the furniture, the walls, and especially the bedding."

In his chapter upon the ventilation of hospitals, the author has succeeded in giving an unusual degree of exactness and practical value to all the statements respecting the causes and elements of contamination of the atmosphere in wards and habitations. Concerning the organic and putrefactive matters found in the atmosphere he states:

"I placed an exhausting apparatus, connected with a set of Liebig's bulbs, containing a standard solution of permanganate of potassa, in a room which had been, immediately before, thoroughly aired. The apparatus was set in action, and it was found that it required 1085 cubic inches of air to pass through the solution in order to decolorize it. \* \* \* The windows and doors of the room were now closed, and it was not entered or opened for ten days. At the end of that time the apparatus, above described, was introduced and put in operation. It was now found that 725 cubic inches of air were sufficient to effect a complete decolorization of the solution. \* \* \* I have recently examined the wards of several military hospitals. \* \* \* The ridges were open, and an abundance of fresh air entered through the openings in the sides of the wards. \* \* \* With regard to the amount of organic matter present, my observations led only to comparative results, but they accorded very closely with those relating to the proportion of carbonic acid present. A solution of permanganate of potassa—which was decolorized in the open air only after 1353 cubic inches of air had passed through the arrangement—was, in the hospital which contained the least amount of carbonic acid gas in the atmosphere, decolorized by 801 cubic inches" [the carbonic acid being 0.68 parts in 1000 of the air], "and in that which contained the most"—[viz. 2.11 parts of carbonic acid in 1000]—"by 617 cubic inches."

It is a crowning excellence of this treatise that while every chapter and every paragraph bears testimony to the utilitarian design of direct and humane applications, the more important scientific questions are examined in such a thorough and comprehensive way as at once to interest the scientific reader, and throw new or more certain light upon sanitary science and the art of health. The foregoing quotations well illustrate this.

As the reader may profitably examine all that Dr. Hammond has written upon these physiological questions, we will here refer to the results obtained by Dr. Angus Smith, and which are in every respect confirmatory of Dr. Hammond's experiments upon the organic matters found in wards and habitations.

Employing permanganate of potassa as the chemical test, and making close approximative estimations, Dr. Smith found in the open country north of Manchester, England, 1 grain of organic and putrefactive matter in 209,000 cubic inches of the atmosphere. In a house in an insalubrious section of the city he found 1 grain of organic matter in 16,000 cubic feet of air; behind the house, 1 grain in 8,000 cubic feet; while in a close packed railway carriage he found 1 grain in 8,000 cubic feet, and likewise the same large proportion in his own laboratory when the effluvia of a sewer were regurgitating into the apartment. [See *Quar. Journal of the Chemical Society*, vol. x., pp. 221-224.]

That the diligent pursuit of investigations in this direction will, ere long, be rewarded by the discovery of definite facts of greatest importance in the etiology and the hygienic treatment of pestilential diseases, there is strong reason to hope. The microscope has already revealed epithelial and pus cells, and the spores of various fungi floating in the atmosphere under particular circumstances. Dr. Hammond has given a very neat illustration of the method he has

pursued in searching the atmosphere for such accidental elements contaminating the air of hospitals and other places. His apparatus is similar to M. Pouchet's, and he states that he has frequently obtained the spores of the penicillium and other mucedines. His investigations and nice tests of the local atmosphere of close apartments and insalubrious localities have elicited some interesting questions, and have shown what a tempting field invites the studies of medicomicrologists. But, as we view this subject, the discovery of cryptogamic and infusorial organisms constitutes but one of the less important steps in the progress of that severely inductive inquiry which shall unfold the fundamental facts concerning the essential nature and etiological history of morbid poisons and specific miasmata, and the diseases they induce. The author of the treatise before us has manifestly appreciated the practical bearings of such inquiries. In a few paragraphs he has very clearly set forth what is known upon this subject; and we admire the style and matter of his treatment of this and other abstruse and hitherto conjectural themes of speculation, though, personally, we yet regard the pleasant theory of our friend, the late Prof. J. K. Mitchell, respecting the cryptogamic and infusorial causes of disease, as that distinguished observer once advised us, privately, to do; viz. simply as a convenient ladder or scaffolding to enable us to reach, as well as to deposit, new facts in the temple of scientific truth.

We notice that Dr. Hammond has adopted the very apparently complete arguments that have recently been presented by a western gentleman, respecting the origin of Measles from a peculiar fungus that springs up in moistened straw. We confess that various circumstances which we need not mention tend to obstruct our faith in the conclusions that seem to be so legitimately, and with such remarkable completeness and beauty, set forth in the illustrated communications upon this subject, in the *Am. Medical Journal* last year. Upon reflection, it must appear somewhat improbable that the lumbermen of Maine, Pennsylvania, and Minnesota, who have bunked in mouldy straw from boyhood, should be the first to contract measles from beds of like material in military encampments.

Dr. Hammond records the interesting fact, that he finds in a malarious atmosphere immense quantities of mycetous and other fungi, some of which he designates. And he believes that he once contracted an intermittent fever by exposure to musty hay, which his military superiors required him to inspect.

The chapters on Temperature, Light, Electricity, Water, Soils, Climate, and Acclimation, precede the chapter devoted to Hospitals, etc. Each of those chapters embodies some striking facts drawn from the history of the present war. Illustrating the sanitary relations of temperature he presents a tabulated and comparative statement showing the mortality ratio in five of the national armies during each of the last six months of 1861, and of the first six months of 1862. He states that "the sickness and mortality of the United States forces have, since the commencement of the rebellion, been much less during the winter months of the year than during those of summer." His remarks upon the standard temperature of Hospitals, and the proper means for insuring it, are timely and important.

The hygienic uses of water, and the proper methods for its purification, testing, etc., are very fully described. This chapter is of the greatest practical value, and the information and suggestions it embodies will do good service. It would form a most valuable and popular monograph, worthy the Sanitary Commission's list, for general circulation in the Army.

(To be Continued.)

## Army Medical Intelligence.

### ORDERS, CHANGES, &c.

The resignations of Surgeons S. M. Hamilton and William Moss, U.S.V., have been accepted by the President.

A Military Commission to consist of Surgeon Tripler, U.S.A., Major C. P. Kingsbury, Ordnance Department, and Captain C. C. Pomeroy, 11th U.S. Infantry, has been appointed to meet at Chicago, Illinois, on the 1st day of October, 1863, or as soon thereafter as practicable, for the purpose of examining and reporting on the following subjects:

1st. The alleged abuses in relation to the supplies of the City General Hospital at Chicago.

2d. The abuses relative to pay received for soldiers' discharges at the City General Hospital.

3d. Everything connected with the management of the City General Hospital, during the time it has been occupied as a military hospital.

So much of Special Orders, No. 883, August 26th, 1863, from the Adjutant-General's Office as honorably discharged from the service of the United States Surgeon T. P. Gibbons, U.S.V., in accordance with General Orders, No. 100 of 1862, from the War Department, for being absent from duty for over sixty days, has been so amended as to honorably discharge him from the service of the United States, on account of physical disability.

So much of Special Orders, No. 802, series of 1863, from the Adjutant-General's Office, as mustered out of service Surgeon William Arnold, 57th Ohio Volunteers, to date January 6th, 1863, the date at which he was mustered in, is hereby revoked, and he is honorably discharged the service of the United States, to date July 31st, 1863, he having shown satisfactorily that he performed duty up to that date.

Surgeon T. A. Worrall, U.S.V., will report in person without delay to the Medical Director, Department of the East, for duty.

Leave of absence has been granted to the following Officers:—  
Acting Assistant-Surgeon Geo. S. Rose, U.S.A., for twenty days.

Assistant-Surgeon J. C. Allen, 13th Pennsylvania Cavalry, for seven days.

Assistant-Surgeon C. H. Haeseler, 30th Pennsylvania Cavalry, for seven days.

Acting Assistant-Surgeon Maurice Tucker, U.S.A., for ten days.

Assistant-Surgeon L. S. Constock, 115th New York Vols., for thirty days.

Surgeon Thomas W. Fry, U.S.V., Superintendent of Hospitals at New Albany, Ind., has been ordered to close General Hospitals Nos. 1, 2, and 3, in that city.

Drs. Kenneth Wherry, Lyman Allen, W. A. Spears, H. C. Merryweather, and W. Pryor, have been appointed Assistant-Surgeons to the 4th, 6th, 8d, 9th, and 1st Regiments U.S. colored troops, respectively.

Dr. G. V. R. Merrill, Elmira, N. Y., has been appointed Assistant-Surgeon 6th Regiment U.S. colored troops.

A. P. Reichhold, late Acting Assistant-Surgeon, U.S.A., has been appointed Surgeon of the 4th Regiment U.S. colored troops.

Surgeon A. T. Augusta, U.S. colored Vols., has been transferred to the 1th Regiment U.S. colored troops.

Surgeon J. V. Z. Blaney, U.S.V., has been relieved from duty in the Department of Virginia and North Carolina, and ordered to report in person to Brigadier-General Kelly, U.S.V., commanding Department of West Virginia, for duty as Medical Director.

The following named Medical Officers have been ordered to rejoin their regiments in the Army of the Potomac without delay:—

Surgeon H. W. Grominger, 16th Pennsylvania Cavalry.

Assistant-Surgeon A. F. Herman, 16th Pennsylvania Cavalry.

A. J. Colon, 11th Pennsylvania Reserve Corps.

Surgeon J. D. Osborne, 4th New Jersey Vols.

Assistant-Surgeon H. Gross, 26th Pennsylvania Vols.

J. D. Sturdevant, 139th Pennsylvania Vols.

G. J. Townsend, 72d New York Vols.

W. F. Breakey, 16th Michigan Vols.

G. J. Townsend, 73d New York Vols., has tendered

his resignation on account of physical disability.

Drs. Rudolf Tausky, of Hungary, and Geo. S. Rose, of Pennsylvania, have been appointed Assistant-Surgeons of Volunteers.

Reverend William Y. Potter, having been drafted into the service of the United States, is hereby assigned to the special duty of visiting and inspecting the hospitals in and near Washington and Alexandria.

Upon the recommendation of the Board of Examiners Surgeon Thomas J. Dunnett has been honorably discharged the service of the United States, on account of physical disability, with condition that he shall receive no final payments until he has satisfied that he is not indebted to the Government.

So much of Special Orders No. 835, June 28, 1863, from the Adjutant-General's Office, as directed Surgeon R. B. McKay, U.S.V., to proceed without delay to Santa Fé, N. M., and report in person to Brigadier-General Carleton, U.S.V., commanding Department of New Mexico, has been revoked, and Surgeon McKay will report in person to the Surgeon-General, U.S.A., in Washington, D.C.

The following assignment of medical officers has been made:—

Surgeon J. W. Lawton, U.S.V., now in charge of the U.S. General Hospital at Gallipolis, Ohio, will report in person to the Medical Director, Department of the Cumberland, to relieve Surgeon William Clendenin, U.S.V.

Surgeon Clendenin, as soon as relieved by Surgeon Lawton, will proceed without delay to Clarksburg, Va., and report in person to Brigadier-General Kelly, U.S.V., commanding Department of West Virginia, for duty.

Surgeon George H. Oliver, U.S.V., now at Baltimore, M.D., Assistant-Surgeon George S. Courtwright, U.S.V., now in Department of the Ohio, Assistant-Surgeons Rudolf Tausky and George S. Rose, U.S.V., to proceed without delay to Santa Fé, N. M., and report in person to Brigadier-General Carleton, commanding Department of New Mexico.

By direction of the President, Surgeon Matthew McKen, 2d Virginia Cavalry, has been dishonorably dismissed the service of the United States, for misapplication of hospital property, selling whiskey to soldiers, and making false statements in relation to purchases.

**A GENEROUS DONATION.**—J. Baxter Upham, M.D., of Boston, has lately made the liberal donation of \$600 in trust to Mrs. Gen. Foster, to supply with wine and other luxuries, the sick and wounded of the Stanley Hospital, Newbern, N. C., intended by eight Sisters of Mercy for

## Original Lectures.

## CYANOSIS.

By J. LEWIS SMITH, M.D.,

PHYSICIAN TO THE ORPHAN HOME AND ASYLUM, LECTURER IN THE UNIVERSITY MED. COLLEGE.

[Being a Paper read before the N. Y. Academy of Medicine, February 18 and March 4, 1868.]

## PART V.

## UNCERTAIN CASES.

Case 165, M. 12 yrs.	Case 179, 7 weeks.
" 166, M. 10 mos.	" 180, 11 months.
" 167, M. 21 yrs.	" 181, 10 weeks.
" 168.	" 182, F. 7 months.
" 169, F. 2 weeks.	" 183, F. 4 weeks.
" 170, F. 12 hours.	" 184, 7 months.
" 171, M. 16 years.	" 185, F. 12 years.
" 172.	" 186, F. 18 "
" 173, 30 hours.	" 187, F. 3½ "
" 174, M. 18 years.	" 188, F. 9 "
" 175, M. 49 "	" 189, F. 24 "
" 176, M. 24 "	" 190, F. 36 "
" 177, F. 20 "	" 191, F. 15 "
" 178, M. 20 mos.	

There may be anatomical errors or vices producing cyanosis which differ from those mentioned; but from the rarity of such it is safe to refer any case of this disease to one or the other of the above malformations. It is probable the art of diagnosis will never be so perfected that the nature of the malformation can be accurately diagnosed from the signs or symptoms.

The fact must not be overlooked that these malformations are sometimes present without cyanosis. This is evident from the statement previously made, that the blue disease may not appear for months or years, although it depends on a congenital defect of structure. In many, probably most of these cases of the non-appearance or deferred appearance of cyanosis, there is some mode of compensation, which usually is such as increases the flow of blood to the lungs. The following may be mentioned as examples. Dr. Quain presented to the London Path. Soc., May 5, 1857, the heart of a child who died at the age of ten months. There does not appear to have been lividity, so far as can be determined from the history. The heart was in the condition described in the first malformation. The orifice of the pulmonary artery was so small as to be practically obliterated, and the aorta was of twice the usual size. "From the posterior third of the arch, and from about one inch of the descending aorta, branches, three on each side, were given off to the lungs. The middle branch on the left side communicated with the pulmonary artery, which was pervious, except at its origin." These branches evidently compensated for the obstruction at the mouth of the pulmonary artery.

Another case was related by Dr. Sieveking, before the London Path. Soc., November 1, 1853. The infant lived six weeks. The tricuspid orifice was closed, so that there was no direct communication between the right auricle and right ventricle, and between the auricles was an aperture large enough to admit the first phalanx of the finger. The left ventricle was hypertrophied, so as to form nearly the entire ventricular portion of the heart, and it gave origin to both the aorta and pulmonary artery. To the right of this ventricle, and opening into it, was a small cavity, evidently the rudiment of the right ventricle. The pulmonary artery was twice the size of the aorta. The state of the heart in this patient was similar to that described under the head of *Second Malformation*, there being this difference between this case and those in which cyanosis was present, that the pulmonary artery was so

enlarged as to receive two-thirds of the whole amount of blood at each ventricular systole. The blue disease appears to have been prevented by this enlargement of the pulmonary artery and the consequent increased arterialization.

Dr. Peacock related before the same Society, October 17, 1854, the history of a child, eight months old, who was not cyanotic, but during attacks of dyspnoea had slight lividity about the face. Both auricles opened into the left ventricle by separate orifices. This ventricle gave origin to the pulmonary artery, which measured twenty-four lines in circumference. A crescentic opening led from this ventricle into the right, from which the aorta arose only fourteen lines in circumference. In this case, as in the one just related, there must have been almost a complete admixture of the two currents of blood. As both auricles opened in the same ventricle there were virtually but three cavities, as in the *Sixth Malformation*, and, besides, the large arteries were transposed. In this case cyanosis seems to have been prevented by the relatively larger size of the pulmonary artery than of the aorta, and its more favorable location, so that the pulmonary current must have been considerably larger than the systemic.

In the *Medico-Chir. Trans.*, vol. xxv., Mr. Fletcher relates the case of a female patient, nineteen years old, in whom the aorta was constricted at the ductus arteriosus, so as to be not more than one-ninth of the size of the ascending portion. The *Fourteenth Malformation* was present, but the internal mammary arteries, which were of extraordinary size, established a collateral circulation, and compensated for the obstruction. In the *Medico-Chir. Trans.*, vol. v., p. 287, a similar case is published by Robert Graham, M.D. The patient, a male, attained the age of fourteen years, and followed the occupation of weaver. In this case the aorta was impervious at the ductus arteriosus, but the intercostal arteries were found enlarged, and as these by anastomosis unite the portions of the aorta each side of the ductus arteriosus, it is evident that they supplied the deficiency in the aorta, so that the patient, instead of being livid, had a florid complexion.

And this leads us to speak of compensation in cases of cyanosis, a subject of great interest, but to which few observers have given attention. It is evident that modes of compensation, which are sometimes sufficient to prevent cyanosis, may in those cases in which cyanosis is present serve to moderate it and lead to the prolongation of life. The following may be mentioned as examples:—

In a cyanotic male patient, treated by M. Jacobson (No. 75), the pulmonary artery was not more than one-fourth the size of the aorta, and its orifice was greatly contracted by thickening of its valves. "But to compensate for this the bronchial arteries were very much enlarged; three of these vessels passed off from the right and left sides of the aorta to the lungs, and a branch was distributed to either lung from the pericardial artery."

Mr. Le Gros Clark published in the *Medico-Chir. Trans.*, vol. xxx., the history of a male patient (No. 117), nineteen years old, in whom cyanosis was produced by a supernumerary septum in the right ventricle, but there was this mode of compensation: "bronchial arteries unusually large and tortuous, and the branch from the internal mammary artery, which accompanied the phrenic nerve, was nearly equal in size to the parent trunk, and expended itself principally in the adjacent adherent lung." In No. 150, described by Tiedemann, the bronchial arteries were also greatly enlarged, and after being injected were traced everywhere into the lungs.

The intercostal, internal mammary, and bronchial arteries, are not likely to be noticed in an autopsy, and from the above observations it is probable that they are often enlarged in cyanosis, so as to take on a vicarious function. The increase of muscular fibres in the heart, the presence of apertures in the septa to relieve the congestion, and especially the development of insignificant arteries, so as to answer an important purpose in the circulation, afford a



striking exemplification of the wonderful resources of nature in obviating defects.

Although in nearly all cyanotic patients there are direct communications between the two sides of the heart, it is shown by many observations that these communications or apertures are not sufficient in themselves to produce cyanosis. This opinion was expressed nearly forty years ago by Louis, who published an excellent monograph on the subject of these communications, basing his remarks on an analysis of twenty cases. Since the publication of this paper the belief has been pretty general in the profession, and observations continue to substantiate it, that although the apertures may be of considerable size, if the two sides of the heart, with their orifices and vessels, are in their normal state, so that they act symmetrically and without obstruction, and there be nothing to disturb their regular action, cyanosis will not occur. In proof of the correctness of this opinion many cases might be cited of a pervious, and some of a largely dilated foramen ovale without the cyanotic hue, cases which have been published in the journals since the appearance of Louis's monograph. To remove any doubt which may exist on the subject, the following may be mentioned as striking examples in which the inter-auricular or inter-ventricular septum or both were incomplete, without the occurrence of cyanosis:—

In the *L'Experience*, January, 1838, is the history of a shoemaker, who died at the age of twenty-six years, of pneumonia. He had always suffered from palpitation. The heart was very large. "All the cavities and orifices were very wide and open." The foramen ovale was closed, but the inter-ventricular septum was deficient to the extent of an inch in diameter. In the *London Med. Gazette*, April 21, 1843, quoted from the *Trans. of the King's and Queen's College, Dublin*, is the history of an individual in whom the inter-auricular and inter-ventricular septa were both virtually absent, without the occurrence of cyanosis.

Dr. Hare presented to the London Path. Soc., April 17, 1848, the heart of a female infant, who died of pneumonia, at the age of five months. The septum between the auricles was perfect, but that between the ventricles had an aperture half an inch in diameter. Dr. Hare also gave the history of another case, in which the foramen ovale was pervious, and there was an aperture in the base of the inter-ventricular septum three-sixteenths of an inch in diameter.

At a meeting of the London Path. Soc., January 18, 1853, Dr. Hale presented a specimen taken from a child ten weeks old, in whom the pulmonary artery was unusually large, and the aorta of its ordinary size. The septum ventriculorum was almost entirely absent, and the foramen ovale open and of large size. In the *Arch. Gén. de Méd.*, February, 1843, is the history of a foundling child, who died at the age of eleven days from umbilical phlebitis. The septum between the auricles and that between the ventricles, were both absent. A very similar case is related by Farre, but the child died at the age of seventy-nine hours. In all these cases the two sides of the heart were fully developed, the vessels were in their normal situations, and gave free passage to the blood.

The presence of apertures between the two sides of the heart, without cyanosis, does not prove that this disease may not occur in consequence of these apertures, for there might be some compensation which prevented its appearance. But when, as is really the truth, many instances may be adduced of communications between the auricles or ventricles, without cyanosis, and none have been mentioned of cyanosis occurring in connexion with this malformation, if also it was certain the two sides of the heart and their orifices were in their normal state, and there were nothing to disturb the regular action of the heart, it is safe to infer that openings in the septa of the heart are not sufficient to produce cyanosis. Still, facts show that in the common obstructive malformations, the blue disease is more apt to occur, or, if present, to

be aggravated by the presence of these openings, for during the ventricular systole a larger quantity of blood would pass through the contracted orifice to be arterialized if it did not escape to the opposite side of the heart. If the openings are large, slight obstruction or irregularity of the heart's action, especially from inflammatory and febrile affections, is sufficient to produce the cyanotic hue. For example, in the *Gazette des Hôpitaux*, August 24, 1861, Gérard relates such a case, in which there were three inter-auricular apertures, but no lividity was observed till the heart's action was disturbed by an attack of bronchial inflammation. On the other hand cyanosis is not apt to occur, although there be much obstruction, if the septa are complete. It will be recollected that in the tables of cases only one such is given. This explains the fact that cyanosis rarely occurs unless the obstruction is congenital, for it is only in such cases that the two sides of the heart inter-communicate. In support of this view may be mentioned two cases reported by Dr. Elliotson in the *London Med. Gaz.*, vol. x., and one by Dr. Peacock published in the *Lond. Lanc.*, June, 1859—adults of the ages of twenty-three, thirty-nine, and sixty years. In all the pulmonary orifice was contracted, and it can scarcely be doubted that the blue disease would have been present had there been free communication between the pulmonary and systemic sides of the heart.

We now approach the question—What is the proximate pathological state which gives rise to cyanosis? Allusion has already been made to the two theories which prevail in the profession—the one attributing the disease to the intermingling of venous and arterial blood; the other to obstruction at the centre of circulation, and consequent venous congestion.

That the former theory is absurd, in other words, that admixture of the two kinds of blood is not essential to the production of cyanosis, is apparent from the following facts. In one case in the *Fourth Malformation*, there was no communication between the two sides of the heart, and the ductus arteriosus was closed, so that admixture was impossible. Again, in the *Eleventh Malformation*, or that in which the aorta and pulmonary artery are transposed, the blue disease evidently does not depend on the admixture of the two currents. On the other hand, in this curious state of the heart, the more the admixture the less the cyanosis, since the only way in which the systemic current of blood can be arterialized is by passing to the opposite side of the heart. An argument against this doctrine may also be found in the fact that the modes of compensation are not such as in any way diminish or obviate the admixture. It is admitted that in the more frequent malformations cyanosis is increased by the apertures, which allow the intermingling of the venous and arterial currents, but it is more reasonable to consider the intermingling and the cyanosis as the direct results of the malformation, neither having the precedence of the other, than to consider that they are related to each other as cause and effect, or as proximate and remote results. Viewed in this light, the admixture must be considered simply a concomitant of the cyanosis.

The second theory, that of venous congestion, has numbered among its advocates many who have given special attention to the subject, as Morgagni, Louis, and Stillé, but it seems to have even less claim for acceptance than the theory of admixture. It has been seen that in nearly all cases of cyanosis the two sides of the heart communicate freely, so that if the current of blood meets with an obstruction, as it commonly does, it readily escapes to the opposite side where the artery is large and gives it free passage. In this way congestion, if not prevented, is greatly diminished. Again, it will be seen that, although certain of the viscera are frequently found at the autopsy more or less congested, congestion is not uniformly present in the organs, as it would probably be were it the proximate cause of cyanosis.

Moreover, in some patients the malformation is not ob-

structive. The cavities and their orifices are of the normal size, and cyanosis is due entirely to malposition of the vessels. It cannot be said that in these cases there is venous congestion from arrest at the centre of circulation. If there be any congestion, it must be due to the fact that venous blood does not circulate as readily as arterial in the capillaries. It is true that in the paroxysms of dyspnoea there is sometimes more or less congestion; the distension of the jugulars shows this, but it subsides with the paroxysms, and is probably no more than usually occurs when the respiration is greatly embarrassed.

In fine, attempts to express the immediate pathological state producing cyanosis in the terms of a general law have failed. However plausible the above theories may appear in regard to certain cases, there are others to which they are manifestly inapplicable. Those who advocate these theories seem to lose sight of the obvious fact, that the chief want of the economy in cyanosis is arterialization of the blood, and it is hardly supposable that there can be any correct theory of its causation which is not founded on this fact. With this want of the economy in view it does not seem difficult to express a theory in comprehensive terms which is applicable to all cases, such as the following: *Cyanosis is due to vices or defects in the organism, usually congenital, which prevent the free and regular flow of blood to, through, or from the lungs.* So comprehensive a statement includes not only cases of malformation and malposition of the heart and its vessels, but also those few cases in which the lungs are in fault. In most patients, as we have seen, the current of blood towards the lungs is obstructed, and the current of blood from the lungs, in those comparatively rare cases in which the malformation is on the left side.

Physicians, in their post-mortem examinations of cyanotic patients, have usually directed their attention chiefly to the heart and the vessels in immediate connexion with it, so that their description of other viscera is commonly meagre. The pericardium, so far as can be ascertained from the records, ordinarily presented its normal appearance, excepting more or less distension from effusion within. The character and an approximate estimate of the quantity of effused fluid are mentioned in fifty-one cases. With rare exceptions it was pure serum. In seventeen the quantity was half an ounce or under, if we include in the number those in which the amount is expressed in such terms as "due quantity," "usual amount," and "small amount." In twenty-four cases the serum exceeded half an ounce; usually it was estimated at from one to six ounces, but in two it exceeded the latter quantity. In one of the twenty-four the serum was sanguinolent. In two cases the records state that there was a small quantity of blood in the pericardium, and in the remaining patient the two pericardial surfaces were agglutinated by fibrinous exudation.

In some of the autopsies serous effusion was found in the pleural cavities, usually in connexion with pericardial effusion, and in at least one instance the serum was tinged with blood. Old adhesions between the costal and pulmonary pleura were observed in a few instances. The condition of the lungs was recorded with more or less minuteness in 110 cases. Mention has already been made of the large number affected with tubercular disease, which, if not confined to the lungs, was chiefly exhibited in these organs. In thirty-five patients the records state that the lungs were of small size, either by compression, or sometimes, apparently, by the continuance of the foetal state over a greater or less portion of the organ. The compression was produced either by the distended pericardium or by effusion in the pleural cavities. In thirty-five cases the lungs presented a dark color. This hue in some specimens accompanied the unexpanded or foetal state of the organ, but in others there was no diminution of the size, and the dark color was due to engorgement or congestion. In other cases the lungs are said to have been natural, except the color. In nine there was emphysema in a part of the lungs, in two pneumonia; in two the color was pale, in

one a bright crimson; in one the lungs were larger than natural, in one the right lung was absent, and in seventeen these organs were recorded healthy.

Next to the thoracic organs the viscus which would be most likely to be affected in cyanosis is the liver, since this is largely an eliminator of carbon. Mention is made of this organ in twenty-six cases, in sixteen of which it is recorded enlarged, and in four of the sixteen congested. Congestion is also recorded in eight other cases, in which no mention is made of the volume. The parenchyma had a natural appearance in nine cases, but in some of these there was enlargement. From these observations it is probable that the liver is commonly enlarged in cyanosis, and not unfrequently congested. In a few cases the condition of the other abdominal viscera is mentioned; in some as healthy, in others as congested. There were fifteen examinations of the brain, in seven of which congestion is recorded, and in three abscesses in the cerebral substance, in one of which cases the lateral ventricle was also filled with pus; in two there was softening of a portion of the brain, in three the brain was firm or compact, in three the quantity of serum in the cranial cavity exceeded the normal amount, and in one it seems to have been less.

The character of the blood in cyanosis is a subject of much interest, but about which little is known, except that its color is dark, its coagulability feeble, and, probably from the nature of the disease, carbonaceous products are in excess, while oxygen is in less than the normal quantity. No chemical analysis of the blood in cyanosis has yet been published, so far as I can find. There is reason to believe that the hydro-carbons as well as carbonic acid are in excess in cyanotic blood. That carbonic acid is in excess is probable, from the fact that it is one of the chief functions of the lungs to eliminate it. That the hydro-carbons are in excess is probable for the following reason:—The only viscus besides the lungs which can eliminate carbon from the system in any considerable quantity is the liver, and, in the words of Dr. Carpenter, "the composition of the secretion ('bile') clearly indicates that it is intended to eliminate from the blood its superfluous hydro-carbon." Now, that this organ does really perform the vicarious function in cyanosis is probable from its usually augmented size. And as the liver cannot rid the system of carbon except in the form of hydro-carbon, and as the hydro-carbons, as cholesterine, are not formed in the liver but are separated as such from the blood, the inference is reasonable that cyanotic blood contains the hydro-carbons in excess. This idea also derives support from the fact that but little oxygen is required for the formation of these substances. But this is a question which can only be decided by chemical analysis.

From the nature of cyanosis it is evident the treatment should be more hygienic than medicinal. The patient should be warmly clad and kept in a warm room, and all agencies calculated to embarrass or disturb the functions of the body or excite the emotions should be studiously avoided. The diet should be simple but nutritious.

Much has been said of position as a means of alleviating the severity of the disease. It will be recollected that Prof. Meigs of Philadelphia made the remarkable statement, some years since, that he had seen the blue color disappear the very instant the child was placed on the right side, with the head and limbs somewhat raised, and that, by this means, he had saved fifty or sixty children in a hundred. These remarks were evidently made in the belief that cyanosis depends entirely on the apertures between the two sides of the heart, and the consequent admixture of the venous and arterial blood. Faith in a theory must have influenced his observation of facts. It is very evident from the character of the malformations that little real benefit can be expected from placing the patient in any one position. In case No. 7, "the only easy and indeed comfortable position in which the child could remain was that usual in nursing. When erect, the dusky color of the face and neck became a dark blue." In Nos. 14

and 64, position on the right side made no difference with the symptoms. In No. 36 the patient was easiest on the hands and knees; in No. 56, with the head elevated; in No. 68 the paroxysm could be avoided by lying on the left side for ten minutes; in No. 24 the patient suffered most when erect; in Nos. 103 and 156 the patients did not feel well except when lying on the right side; in Nos. 99 and 117 the patients lay indifferently on either side; on the other hand, in Nos. 178 and 191 the recumbent position was badly tolerated. From these observations it appears that some obtain most relief by lying on the back, others on the right side, others on the left, some when on the hands and knees, some when reclining on either side indifferently, while, finally, others suffer least when erect.

There was a time when the paroxysms were treated by venesection, but depletion has long since been abandoned. Physicians now rely on stimulants, antispasmodics, friction to the chest, and mustard pediluvia to relieve the urgent symptoms, although this treatment is but partially successful.

## Original Communications.

### OPERATION FOR THE REMOVAL OF A SINGLE GOITROUS TUMOR OF THE NECK.

By T. S. SMITH, M.D.,

OF LEXINGTON, MISSOURI.

On the 30th of June, Dr. Ruffin, of this city, brought to my office Q. H., a mulatto man, aged 34 years, by occupation a barber, with what he supposed to be an encysted tumor of the left side of the neck. It rested upon the clavicle below, extending to the border of the trapezius muscle on the outside; in front, it rested against the trachea; above, it reached nearly to the inferior maxilla. The patient first noticed it about four years ago; but its growth was slow, until about four or five months ago, since which time it had been growing fast, and had interfered with his breathing when he turned his head to the right. When asleep, if his head turned to the right, he awoke with a sense of suffocation, swimming in the head, amounting almost to vertigo, and was only relieved by sitting up in bed, and getting his wife to fan him rapidly in the face for some minutes.

He was anxious about it, and desirous to have it removed at once, and as his health was good, and the weather fine, the next day, July 1st, at 10 o'clock A.M., was set for the operation. Assisted by Drs. Ruffin, Young, Vaughn, and Wilmot, I commenced the operation by making an incision from the sterno-clavicular junction to the angle of the inferior maxillæ, cutting through the skin, superficial fascia, and platysma myoides muscle. As the tumor was freely movable in every direction, I expected to have reached it at this cut, but finding that I had not reached it, I dissected up the sterno-mastoid muscle, and pushed it as far outwards as I could. The incision was then carefully deepened, until we saw the omo-hyoid muscle lying across the track of the cut. Knowing that it would not do to cut the muscle in two, and finding that we could proceed no further without room, we determined to make another incision, beginning at the middle of the first, and extending across the trachea three inches long.

The flaps made by this incision were turned back, and several large vessels secured by the ligature. This revealed to us the tumor lying under the sterno-hyoid, sterno-thyroid, and omo-hyoid muscles. These muscles were all loosened up with the handle of the knife, and pushed aside, and revealed to us a tumor as large as the fist of a man, covered by a tough membrane, probably adventitious. This was carefully divided across the whole extent of the tumor, and separated from the loose cellular connexion by passing the finger freely all around the tumor.

The tumor was now loose, except at its base, and a strong thick band as broad as the three fingers running across the trachea, and firmly connected to something on the right side. We now had to tie several small and one large artery, and stop the capillary bleeding with ice-water. The tumor was now fully exposed, and we had a fair chance to examine it thoroughly. We had for some time suspected its character, but holding to the generally received opinion that there is no such thing as a single goitre, we were determined to demonstrate beyond a doubt what its true character was.

At its base it was loosely attached to the structures below, but a careful examination by all of us proved it to be firmly attached to the perfectly healthy right lobe of the thyroid gland, by a band as wide as three fingers, and very firm, and at least three-quarters of an inch thick; and in it many large arteries could be felt freely pulsating. It was firmly attached to the carotid sheath, and the superior and inferior thyroid arteries could be seen dipping into its substance. I passed a needle, armed with a strong silk ligature, under the inferior thyroid artery, and tied it; but this wounded the surface of the tumor very slightly, and gave rise to severe bleeding, which neither ice nor the solution of the perchloride of iron would arrest, and we had to grasp it with the forceps, and tie it. It was impossible to get a ligature around the superior thyroid artery without wounding the surface of the tumor, as the artery was imbedded in it, and to have tied it close to the parent vessel would have been to insure a chance for secondary hæmorrhage of a serious character.

There was another vessel which came from the subclavian artery, and was as large as a large-sized goose-quill; this dipped into the tumor on the under side, passed through it, and again showed itself running along the superior border of the tumor for a short distance, then dipped into it again. This artery we supposed to be the transverse colli, or a branch of it very much enlarged. We were very careful to satisfy ourselves that this was not an aneurism, for no pulsation could be felt in it, only at such points where large vessels were passing through it; its outer covering was a very thin transparent membrane, having much the appearance of a serous sac; and the best description that I can give of its appearance is that of a thin sac of bright-pink color, with a broad neck, filled with a number of deep red earth-worms, some at rest, others enlarging and contracting in strict harmony with the heart's movements. To have tied the vessels leading to it, and then have dissected it loose from the sheath of the carotid, and lastly, to have divided its connexion with the right half of the gland, would have left us a large number of arteries coming from the remaining half of the gland, which would have produced fatal hæmorrhage, as they would in all probability have retracted into the gland, and could not have been secured. To have secured the arteries of the right, and have removed both lobes of the body, was hazardous in the extreme.

Considering, finally, all the points bearing on the case, we came to the conclusion that we had better let it remain, that by so doing we were giving him the best chance for life. I pressed the tumor as far as I could from the trachea, replaced all of the muscles, and brought the skin together with ten silver wire sutures and some isinglass-plaster. A wet compress, and roller loosely applied, completed the dressing. We tied fourteen arteries. The operation lasted two and a half hours, most of which time was taken up in examining and consulting. He was under the full influence of chloroform all the while, and took twelve ounces without the slightest untoward symptom. On the 5th day, we removed the dressing, and found the whole of the cut united by the first intention, except when the ligatures came out. At this time, twenty-three days after the operation, he is well, and at his work, and the tumor is reduced one half by internal and external use of iodine.

I believe the existence of single goitre is ignored by all the writers on surgery or pathology that I have seen; but

this case has been demonstrated by the knife on the living subject, as clearly as it could have been on a dead subject: and this man tells me that his mother died of a similar tumor on her neck; had he told me this before I cut him I should not have done so. I am fully convinced of the frequent existence of single goitre in this country—at least, I do not remember to have seen it in any other part of the United States. I know at least a dozen cases in this place, which has a population of from 5000 to 6000. I know one family here, in which four sisters, mulattoes, have a large single goitre. In the white man or woman I have seen only two or three single goitre, and they were either scrofulous or syphilitic subjects.

LEXINGTON, Mo.

#### COMMENTS UPON THE CASE.

By PROF. VALENTINE MOTT, M.D., LL.D.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—I received the inclosed paper some days since from DR. SMITH, of Lexington, Missouri, and forward it to you for publication.

It details a formidable and difficult operation, with an interesting and gratifying result.

It establishes the fact, that one lobe of the thyroid body may be goitrous without the whole body being involved.

I was ignorant of this fact myself, and have taught for over fifty years a different opinion.

Dr. Smith's case is conclusive, as far as a case can go, of the goitrous state of one lobe of the thyroid. And his statement of cases about him is fully confirmatory of the fact.

My observation and experience in this country extend over a long period, and I am certain that I have never seen one side only of this body affected.

My opportunity some years since in Switzerland was extensive, particularly in the Valais country, where at every turn we see goitre. In no instance did I see it on one side.

This fact I published on my return home. An eminent physician in Geneva confirmed me in this opinion.

I have seen and operated upon tumors of the neck which have so much simulated an enlargement of one lobe of the thyroid body, and lying too under the sterno-hyoid and sterno-thyroid muscles, that not until the operation was about finished, did I know the truth; the whole structure of that side being fretted away by the pressure of the tumor, so that nothing but its collapsed tunics remained.

One which I lately removed, nearly the size of my two fists, was of this description.

Yours truly,

V. MOTT.

NEW YORK, Sept. 25, 1868.  
1 Gramercy Park.

### ON THE TREATMENT OF GUNSHOT FRACTURES OF FEMUR AND TIBIA.

By JOHN T. HODGEN, M.D.,

SURGEON U.S. ARMY.

I DESIRE once more to tax the patience of your readers on the subject of gunshot fractures of the femur and tibia, and the appliances for their treatment.

Amputation in these cases has been pretty generally abandoned by our army surgeons, except when joints, blood-vessels, or nerves, are implicated. To this practice of preserving limbs, they have been guided by the facts accumulated during the present war. But the best mode of treatment, and the amount of interference on the part of the surgeon, seems not to be so fully determined.

When a ball strikes a long bone, there is more or less shattering, and a greater or less number of fragments are

detached from all connexion; others, though separated from bony parts, still adhere by periosteum.

Now, there is no question but that the duty of the surgeon, immediately after such injury, is to remove all the completely separated fragments; but as to those still holding their periosteal relations (since the periosteum is the framework by which the blood-vessels reach the bone, and the presumption being that the vessels are still in condition to transmit blood to the bone for its nourishment), each fragment, however small, serves as a nucleus from which the material destined to unite the bone is effused. It therefore becomes desirable to save all such fragments, instead of resecting in continuity, as has been practised by many of our surgeons, as I think to the disadvantage of the patient.

I would say, then, that resection in continuity is never profitable; and that it diminishes the chances of recovery with a useful limb, as it removes a part of the material, which, if left, would aid in the union.

Meddlesome interference often diminishes the chances of recovery. In compound comminuted fractures, it is a common practice to use the probe freely every few days, with the view of detecting detached fragments that may be a source of irritation. The surgeon is impatient for the removal of dead and yet fixed portions of the bone; and, finding a pair of forceps in his case of instruments, he is tempted to use them in cutting off the offending part, and thus causes an inflammatory action that results in the death and final separation of a much larger portion than would have otherwise been lost, to say nothing of the suffering and prostration of the patient necessarily following such interference. It must be remembered that several weeks are required by Nature, in her efforts at removing foreign matters, to cut loose a piece of dead bone, so that the surgeon's forceps may remove it.

Again, limbs are too frequently moved for the purpose of cleansing them; not that I object to having them kept clean, but the disturbance which is necessary, in consequence of the imperfect appliances used in supporting the limb, is sure to retard, if it does not altogether prevent union.

I would say in these cases of compound comminuted fractures of the femur and tibia, remove all fragments that are entirely free; when this is done, make no further explorations in search of dead or detached fragments for six weeks, or two months. Place the limb in the position in which it is destined to remain during treatment, and so arrange the apparatus that it will not be necessary to remove it in keeping the wound free from irritatory discharges.

In the AMERICAN MEDICAL TIMES, of the 21st of May, of the present year, I gave a cut, and description of a cradle-splint (as I call it), which has been used with advantage. Since that time I have used a more simple apparatus, and found it to answer all the ends served by the first, and in some respects to be more desirable.

The splint referred to is a combination of the principles of Smith's anterior splint, Swinburn's extension, and the strip bandage supports used in my cradle-splints. The cut gives a clear idea of it as applied.

The body of the splint is made of No. 2 iron wire, which is sufficiently strong to support the limb, all of one piece, bent as seen in the cut.

The dimensions are as follows:—Four inches across the bottom of the foot; twenty-two inches from the foot to bend at the knee; twenty inches from the bend of the knee to the upper ends of the wire (corresponding to the pubes and hip when applied). These upper ends are eight or nine inches apart, being separated by a bow of thick wire; another similar bow is placed at the knee, having a span of six inches.

These two bows are made so that they can be put on or taken off without disturbing the dressings, and are put in position after all else is arranged—the one at the hip having a loop at each end to receive the upper ends of the

splint wires, the other simply hooks, to be looped on at the knee.



**How Applied.**—A bandage is applied to the foot; adhesive straps, three inches wide, are applied each side of the leg, extending four or five inches below the foot, and up to the knee in case of fracture of the femur; to the fracture, in case the tibia is the injured part. The roller is then extended smoothly over the adhesive plasters.

That limb of the splint designed to pass next the pubes is bent upwards, at a point from the bend of the knee in the splint corresponding to the distance from the bend of the knee to the pubes on the sound side of the body.

Strips of bandage three inches wide are now looped over one limb of the splint, continuously from the upper to the lower end, and allowed to belly downwards a distance equal to two-thirds of the diameter of that part of the extremity designed to rest upon each one; the other ends of these strips are pinned over the other limb of the splint, thus forming a double inclined trough in which the extremity is now to be placed. The free ends of the adhesive strips are next fastened to the cross-piece at the foot, three inches apart, and the whole suspended from a pulley fixed to the ceiling, or a frame; the pulley should be almost directly over the foot, giving the suspending cord an oblique direction, that in this way we may have sufficient extension.

If the patient is disposed to slide towards the foot of the bed, this must be elevated on two bricks under each of the legs at the foot of the bedstead.

The advantages claimed for this arrangement, are:—

1st. That the limb is entirely free from compressing bandages, so that circulation and nutrition are uninterrupted; consequently repair goes on in its wonted course.

2d. The limb may at any time be examined without disturbing the dressings.

3d. Any one of the supporting strips may be removed and replaced without displacing the fracture; consequently the external wound may be frequently dressed, and all offensive matter removed as often as may be required.

4th. The absence of the perineal band, and the limb being suspended on strips of muslin, there can be no perineal excoriations, no ulceration of the heel, while every part of the limb is kept cool in the hottest weather.

5th. The freedom with which the limb moves in obedience to impulses received from the hip and upper part of the thigh, allows the patient to sit up, to move to any part of the bed, or lift himself on a bed-pan, without

disturbing the fracture or causing the patient the least pain.

All of these requisites are not answered by any other splint in general use. Dr. Smith's anterior splint embraces all the qualities required for simple fractures; but it is not, in my opinion, so well adapted to compound fractures, as it does not admit of the limb being so easily inspected, or offer the same facilities for dressing.

St. Louis, Mo., Sept. 11th, 1863.

## Reports of Societies.

### NEW YORK ACADEMY OF MEDICINE.;

STATED MEETING, September 16, 1863.

DR. JAMES ANDERSON, PRESIDENT, IN THE CHAIR.

A REPORT ON THE PROPERTIES AND COMPOSITION OF THE RIDGEWOOD DISINFECTING POWDER.

A REPORT was received from the Section on Public Health and Legal Medicine, through its Chairman, Dr. Griscom, on the *Ridgewood Disinfecting Powder*, which had been presented to the Academy a few months previously, and referred to that Section for examination and report.

After some general remarks on the superior value of solid and fluid disinfectants over those of a gaseous form, chlorine and nitrous acid, etc., as going directly to the source of the evil, and preventing its formation or escape, instead of attempting to control the noxious matters after their dissemination, as gaseous correctives can only do, the report gives the details of several experiments which were made to test its alleged deodorizing and disinfecting properties.

The first test to which it was subjected was on the contents of a vessel in which a number of small bones had been macerating in water several weeks, giving forth an intolerably offensive odor; a handful or two of the powder being thrown in the vessel, in five minutes the offensiveness was entirely corrected, and when examined three months afterwards (at the close of the intensely hot summer), the good effects remained as manifest as at the first. The bones were found entirely denuded, in perfect preservation, and they as well as the water odorless.

The second experiment was a comparative one. The carcasses of two dogs which died on the same day, were placed one on the ground, exposed to the influence of air and sun; the other, enveloped in a bed of the powder, about two or three inches thick. On the fifth day, the temperature all the time being considerably over 100°, the first carcass was found completely decomposed and yielding a most foetid effluvia. This effluvia was immediately arrested by throwing upon the remains a pound or two of the powder. Upon removing the other body from its bed, it was found in an almost perfect state of preservation, the only manifestation of decay being some swelling of the trunk from the internal generation of gases. The inference from this experiment was, that the ridgewood powder acted as an *antiseptic*, as well as a deodorizer. About four weeks afterwards, the great heat of the weather having continued in the meantime, the second carcass (having been replaced in its powdery bed) was found to have undergone some decay, evinced by a partial denudation of the skin of its hair, and some apparent softening of the flesh. It was however, considering the state of the weather, and the length of time, in a remarkable state of preservation.

A third experiment was made by eviscerating a small animal, and sprinkling the cavities with the powder, as well as covering the body externally with it. This was to avoid the generation of intestinal gases. The result was that after four weeks, the body being again exposed, the flesh was found dry, well preserved, and inodorous, the process of decomposition, to all appearance, having been suspended.

From these results it would seem that this article would prove a valuable assistant to the undertaker, in the preservation of bodies, especially after post-mortem examinations.

Other experiments were reported by the Committee, all going to prove its power of deodorizing decaying matters, and preventing decomposition.

In addition to the experience thus obtained by the section, other evidence was collected from the reports of several military hospitals in Washington and elsewhere, where the new disinfectant had been tried. This testimony was strongly corroborated. The ability of the Ridgewood powder to control the ammoniacal odor of stale urine, to correct the smell from water-closets, to remove the offensiveness of the post-mortem room, when sprinkled on the floor, etc., and to check the decomposition of the dead bodies, even after its commencement, were strongly testified to by several surgeons-in-charge, among whom we recognised several well known names, as Drs. Paul B. Goddard, Antisell, U. H. Butler, Judson, and others which we do not recollect.

Dr. Butler, of the Armory Square Hospital, states in his report to Medical Director Abbott, "the superintendent (of the dead house) reports that on sprinkling a moderate quantity on badly decomposed bodies, the offensive effluvia disappeared, and he gives it as his opinion that it is the best disinfecting agent we have used."

The composition of this powder, as given in the report to the Academy of Medicine, is as follows:—Carbolic acid, five to eight per cent.; sesquichlor. ferri, two to five per cent.; charcoal or pulverized pumice, five per cent.; lime, from magnesian limestone, five per cent.; Fuller's earth, seventy to eighty per cent.; and a trace of the sulphates of potash and soda.

From the facts above reported, and an examination of these components, it is manifest that this powder is a valuable addition to the list of deodorizers and disinfectants, and that while others, as the nitrate of lead, chloride of zinc, and permanganate of potass, are equally efficacious, and perhaps better adapted to some necessities, especially about the persons of the sick in hospital wards, etc., the greater cheapness of the Ridgewood powder must commend it in all other localities, and for general use.

The report to the Academy concluded with a recommendation of its use in stables, especially in cities, as a means of preventing the unpleasant odors from the animal feces and urine, and as a means of retaining in the manures, the gases whose escape impairs value for agricultural purposes, at the same time that they infect the air.

Its general use in the filthy courts, cellars, privies, and even in the streets and gutters of the city (instead of the lime which we sometimes see so freely and uselessly distributed), would doubtless have a happy effect in purifying those nauseous localities; and the same may be said of many of the camps and fortifications of the army, especially of those cities which have recently been captured from the rebels, and as is always the case after long military occupation and siege, are in shockingly unsanitary condition.

**SURGICAL INSTRUMENTS CONSTRUCTED OF ALUMINIUM BRONZE.**—M. Morel-Lavallée has recently made a very favorable report to the Paris Society of Surgery upon a pocket-case of instruments fabricated by MM. Robert and Collin of aluminium bronze, consisting of ninety-five parts of copper and five of aluminium. All the instruments except the blades are made of this material, and they may advantageously replace silver in many cases, and in others iron or even steel. The alloy is not oxidizable, and preserves its brightness amidst the various agents it is brought in contact with in daily practice.—*Lancet*.

**ENLARGEMENT OF THE HEART IN CHLOROSIS.**—Dr. Strak believes that sufficient attention has not been paid to this complication. He adduces four cases in which enlargement of the heart was observed during the progress of the chlorosis, diminishing again as the original disease underwent amendment.—*Archiv. der Heilkunde*, 1863, No. 1.

## American Medical Times.

SATURDAY, OCTOBER 10, 1863.

### SICKNESS AND DEATH-RATES IN THE ARMY.

How much life and vital force does the great War for the Republic necessarily and inevitably require, and how much does it needlessly waste, are questions that not only concern every citizen and every home in the land, but profoundly concern the State and the great interests of civilization and humanity.

In Circular No. 15, from the Surgeon-General's Office, which has just reached our table, we discover how these vital questions are being studied in the Medical Bureau, and how wrought out in practical labors by medical and commanding officers in the field. And we are free to say that the manner and the results of such working, both at the Bureau and among the tented myriads where the nation's life struggle is progressing, do far better defence of the Medical Staff, and more emphatically pronounce its deserved encomium, than aught we can write. Not to sympathize in such labors, and not to aid and sustain the men upon whom devolve the life-conserving duties in this great war, is unworthy men claiming membership in our profession, or citizenship in the Republic. And with augmented emphasis would we apply this remark to any military surgeon who may, in heart or even practically, by his negligence of official and defined duties, be charged with such indifference.

It is a fact well known to the profession that, in the earlier period of the war, it was regarded as doubtful whether the suddenly gathered medical staff of the volunteer army could or would be brought into the habit and duty of faithfully reporting statistics, and practically enforcing systematic sanitary regulations, and exact hygienic observations. We have reason to believe that it was the painful recollection of such failures in the official duties of volunteer surgeons in the Mexican War, no less than his humane purposes, that led that veteran surgeon, Dr. ROBERT C. WOOD, the acting Chief of the Bureau, at the very opening of the war, not only to request the War Department to sanction the organization of the United States Sanitary Commission, but actually to accept an appointment in that Commission, and become one of its effective workers.

These remarks are justified by the history and progress of sanitary inquiry and sanitary works in the army medical department; and if our readers will examine the following figures and quotations from the circular before mentioned, they will obtain some idea how the work of sanitary inquiry and improvements was conducted during the first year of the war, and how the study of military hygiene and the vital statistics in our vast armies are now systematized and progressing in the medical bureau.

Dr. J. J. Woodward, who is in charge of the preparation of the medical history of the armies in the field, reports under date of September 2d, that

"In accordance with instructions from the Surgeon-General, directing me to prepare a brief statement of some of the more important facts with regard to the influence of season and region on the camp diseases of the army, as exemplified by the statistics of the first year of the rebellion, I have the honor to sub-





quently participated, more or less, but often produced nothing abnormal."

"Great efforts have been made during the fiscal year ending June 30, 1863, to secure completeness in the medical statistics; and these efforts, although not crowned with perfect success, have had the effect of rendering the reports for that year comparatively complete, and the work of compiling them is progressing as rapidly as is possible with the clerical force employed.

"It is believed that, as the attention of the medical officers in service is now fully directed to the effort being made to compile these statistics, their hearty co-operation may be relied upon, and that the figures for the present year may be hoped to be as nearly complete as can be expected from any great army in time of war."

*Monthly rates of camp fever in the armies of the United States during the year ending June 30, 1862, expressed in ratio per thousand of mean strength.*

	1861.						1862.					
	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.
Atlantic border..	8.80	18.78	25.00	27.64	27.83	19.74	18.85	18.81	10.99	17.42	24.88	27.07
Central region...	15.94	24.07	23.06	26.57	25.38	26.00	21.98	18.15	16.46	22.71	29.39	27.64
Pacific border...	1.45	6.23	1.97	9.73	5.81	7.48	8.78	5.00	5.15	2.28	5.58	1.78
												For the year.
												288.99
												319.49
												60.95

*Monthly rates of diarrhoea and dysentery in the armies of the United States during the year ending June 30, 1862, expressed in ratio per thousand of mean strength.*

	1861.						1862.					
	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.
Atlantic border..	168.23	116.29	70.80	62.66	46.00	23.54	22.20	22.90	35.22	67.20	70.92	87.06
Central region...	88.98	127.72	92.84	92.50	69.63	61.27	68.00	64.12	68.66	105.22	97.07	82.02
Pacific coast....	29.41	40.67	23.12	23.00	25.92	20.12	18.07	20.02	22.37	18.97	22.69	20.25
												For the year.
												646.01
												994.77
												319.64

The statements we have here quoted cannot fail to interest every member of the profession, for they plainly foreshadow the accomplishment of most desirable ends in the conservation of life and military effectiveness in the national forces. As civilians, we confess our sense of obligation and hearty sympathy in the great work of sanitary inquiry that is silently going forward in the medical bureau and in the field, and we would earnestly conjure the surgeons of regiments and directors of corps to give the greatest practicable completeness and value to their stated inquiries and reports. It is by means of more comprehensive and complete statistical records and sanitary works that military surgeons are to command a more liberal treatment from the government; and this, certainly, is the least of the reasons for such faithfulness in duty.

### THE WEEK.

THE *British Medical Journal* raises the following pertinent inquiry relating to vivisections:—

"A noble lord, and, if we are not mistaken, a keeper of foxhounds (which sporting position may he long maintain!), is at the head of the Royal Society for Protection of Animals; and many honorable sporting gentlemen also support it. Now, the object of the Society is, as we understand it, to put down, as far as it may, all unnecessary pain which may be inflicted on animals; and, under this head, vivisections are denounced. Are these gentlemen, then, and this noble lord, ready, on the principles which they

advocate, to put down their guns and their foxhounds? They are bound to do so on their own principles, if consistent. We have no hesitation in asserting that more pain (and manifestly unnecessary pain) and suffering is produced in animals by the gun of the sportsman on the 12th of August, the 1st of September, and the 1st of October, than is occasioned in any twenty years of vivisections, as practised in this country. The fact is obvious, and readily comprehensible to any one who will give the facts of the case due consideration. Out of every hundred animals shot at, a certain percentage get away *wounded*. What is meant by the term *wounded*? Why, simply this: that the animal has been vivisected by the shot which struck it; and that, according to the nature of the part so cut up, will the pain of the animal be great or small, of short or long duration. A hare goes off with a broken leg, the two sharp ends of the bone sticking through the skin; and he may live for days in this state, and even recover from it. What vivisectioning process of the physiologist can be compared with the pain inflicted on this animal by the shot of the sportsman?" \* \* \* The physiologist has this to say, which gives him an infinite superiority over the sportsman: he experiments with the object of relieving human suffering, and he operates whilst the animal is under chloroform. The sportsman has no other object than amusement in the business."

THE Sanitary Commission is holding a general meeting at Washington. This meeting will be important, as it is the first held since the retirement of MR. OLMSTEAD, the General Secretary. The business of the Commission is

enormous, extending to every branch of the army, and yet its energies do not flag.

In a recent report of Mr. SIMON, Medical Officer to the English Privy Council, reference is made to the effect upon the human subject of meat infected with parasites, and the possible ill effects of consuming the flesh of animals affected with anthracite or anthracoid disease, such as the braxy of sheep, the black-quarter of horned cattle and sheep, tongue carbuncle, hog-cholera, parturition-fever of cows, or with infectious fevers. He is "of opinion that the absence of evidence is enough to show that immediate ill effects of any considerable importance do not ordinarily follow the consumption of meat" from animals which have been affected with pleuro-pneumonia and aphtha. In regard to the opinion that boils are caused by the consumption of diseased meat, he says: "Though I have not yet found any fact which I can deem conclusive in support of this opinion, I must admit that the alleged connexion is not *prima facie* impossible."

## Reviews.

A TREATISE ON HYGIENE, WITH ESPECIAL REFERENCE TO THE MILITARY SERVICE. By WILLIAM A. HAMMOND, M.D., Surgeon-General U. S. Army; Fellow of the College of Physicians of Philadelphia; Member of the Philadelphia Pathological Society; of the Academy of Natural Sciences; of the American Philosophical Society; Honorary Corresponding Member of the British Medical Association, etc., etc. Philadelphia: J. B. Lippincott & Co. 1863. 8vo. pp. 604.

(Concluded from page 164.)

DR. HAMMOND'S observations upon the hygienic questions connected with the peculiarities of soils, locality, and climate, are worthy the attention of every military officer. Quoting M. Schübler's instructive tables, showing the hygroscopic properties of different soils, Dr. Hammond goes on to say, "that the argillaceous soils and those composed of humus are pre-eminently distinguished for their ability to absorb moisture. On this account ground which is in great part composed of these substances does not answer well for camping purposes. Perhaps the worst of all kinds of soil for camp is that in which sand and humus form the upper stratum, the lower or subsoil being formed of clay. . . . Many camps have been rendered unhealthy solely, so far as could be perceived, through the bad character of the soil in respect to its power of absorbing and retaining moisture."

Respecting the capacity of different soils for retaining caloric, the author quotes his own experience in *bivouacking* as corroborating the definite experiments of Schübler, who has shown that calcareous sand, pure clay, and humus, stand related in this respect, as 100, 66, and 49. And as respects the important quality of soils in their capacity for absorbing organic exhalations or effluvia, and again yielding them under the oxidizing test of the alkaline permanganates, the author has, from his own neat experiments, derived the following results. The effluvia from a jar containing putrid meat, vegetables, and urine, being made to permeate a given quantity (250 grains) of each specimen of soil, and a measured current of fresh air being passed through the same soils, both previously and subsequently to that process of infusion with the effluvia, these numbers showed the cubic inches of air required as passed through to decolorize a standard solution of permanganate of potassa. The column A shows the result previous to the permeation of the soils by the effluvia; while the column B shows the subsequent result.

Kind of Soil.	A.	B.
Pure Sand - - - - -	78.5	67.5
Dry Clay - - - - -	59.	49.5
Sand, Clay, and Marl - - - - -	64.5	58.
Humus - - - - -	41.	11.5

Considered practically, with reference to the deodorizing and disinfecting power of dry earths and the different soils, these are interesting results; and as respects the relative value of sand and humus, these numbers probably give the true indications; but as respects albuminous soils there must be taken into consideration the remarkable avidity with which clay and other porous silicates of alumina and lime absorb and chemically combine ammonia, seizing upon it even in its ordinary conditions of combination in azotized effluvia, and transferring or fixing it in the clay. This property, as described by Liebig, Thompson, and Prof. Way, must be regarded as good proof of the value of dry, calcareous clays for absorbing and neutralizing animal effluvia.

**Hospitals.**—The hundred and forty pages that Dr. Hammond has devoted to hospitals, the principles of their construction, location, management in the field and in permanent institutions, their lighting, heating, ventilation, etc., are replete with practical instruction. Forty-two woodcuts, twenty-five of which are original, are given to illustrate the principles of construction; and as the author, in his duties as Surgeon-General of the army, must have realized the immense responsibility of ordering suitable provision for not less than a hundred thousand sick and wounded men during the first month of his administration of the Medical Bureau, and of supervising such provision for not less than two millions of cases in field and general hospitals during the succeeding twelve months of service, we feel assured beforehand that what he has written respecting military hospitals and their management cannot fail to command the attention of the medical profession and of the national Government.

After a summary review of the leading features of the more important hospitals of European and American cities, showing what errors and defects should be anticipated in the location, construction, and arrangement of hospital buildings, the author proceeds to state in a very lucid and emphatic manner the true principles of hospital-construction. The following paragraphs illustrate his views:—

"In setting out to build a hospital the first object to be had in view is the provision of ward accommodation; the next the provision of accessories, such as kitchens, water-closets, bath-rooms, offices, etc. We shall therefore first consider the best form for the ward, and the several appointments which should be given to it.

**Wards.**—A hospital ward should be of an oblong shape, the form which is best adapted for the arrangement of beds, and supplying the patients with sufficient light and fresh air without wasting space. The width should not exceed twenty-five feet, a space which will allow seven feet six inches for the length of each bed, with a passage of ten feet between the rows. If the width is greater than this, the distance between the windows is such as to prevent free ventilation; if less, sufficient room is not afforded.

"In permanent hospitals the height should not be less than fourteen feet, nor over sixteen. Less than this renders the air close, while more is of little or no advantage. In temporary hospitals, such as those often required in the army during war, which are not ceiled, and which are ventilated at the ridge, twelve feet to the eaves will be found to answer if the roof is high pitched—the only kind which should be constructed, as flat roofs are more liable to leakage, and render a ward hotter in summer than those that are steep.

"The length of the ward depends upon the number of beds it is to contain. The bed should be about three feet in width, and the average distance between should be four feet. As they are arranged in pairs between the windows, the two beds of any one pair are not so far from each other as this; but compensation should be made by increasing the distance between the pairs, so that it may average about four feet. Each bed therefore occupies a space in the length of the ward of seven feet, consequently a ward intended for fifty beds—twenty-five on a side—would be  $25 \times 7 = 175$  feet, the length of the ward. A ward therefore of these dimensions ( $25 \times 175 \times 14$ ) contains 60,250 cubic feet, or 1205 cubic feet to each of the fifty patients.

"These dimensions are the very lowest which should exist in the wards of permanent hospitals in any part of the United States. Every patient in such institution should receive, as a *minimum allowance*, 1200 cubic feet of space, about 87 of which should be superficial. If less than this is allotted to him, an offence is committed against the laws of human health, which can only be excused on the ground of absolute necessity.

"In temporary hospitals, ventilated at the ridge and furnished with a sufficient number of windows, less than this will suffice, provided they are built after the plans which have been shown to be most advantageous to the sick and wounded who are to inhabit them; and consequently in such wards the length need not be so great as in those of permanently built hospitals. In these ridge ventilated wards, of the same width as the others and the same average height, the mean distance between the beds need not be more than two and a half feet;  $25 \times 5\frac{1}{2} = 137\frac{1}{2}$  feet, the length of a ward intended for fifty patients. Such a sized ward contains 48,125 cubic feet, which is about 960 to each patient.

"This is the basis upon which all temporary hospitals should be constructed, and although, from the necessities of the service, it may often be impossible to give to each inmate as much space as the requirements of sanitary science demand, he should receive it without fail as soon as the exigency, which has caused a reduction in his allowance of space, has ceased to exist."

\* \* \* \* \*

"As has been said, the mean height of a ward should not be less than fourteen feet, and it is upon this, as a standard, that the cubic space per patient is to be apportioned. It will not answer to make the walls high and to curtail them proportionally in the other dimensions, for after the height of fourteen or fifteen feet is attained in a ward, the air of any space above that is of very little practical benefit to the patient. It is by no means impossible to produce sickness in well persons by crowding them together in the open air, where the number of cubic feet of air to each is only limited by the height of the atmosphere above the surface of the earth. The number of square feet to a patient, in a ward fourteen feet high, should not, in permanent hospitals, be less than eighty-five, nor in temporary, ridge ventilated wards, less than sixty-five feet.

"The windows of a ward should be of ample size, certainly not less than five feet in height. The number should be determined by the size and capacity of the ward, one being allowed for every two patients."

The plans of the General Hospitals at Fort Schuyler, Point Lookout, Chestnut Hill, and many others, are given in much detail. Like American ideas, those plans are expansive and quite untrammelled by foreign examples. To think of fifty pavilions—each 175 feet in length—arranged tangentially in radii from the periphery of an ellipsoidal court-yard, and there connected by a corridor nearly half a mile in length, which is the outline description of the Monroe Hospital at Chestnut Hill, must awaken some astonishment abroad, where the Titanic magnitude of our war for the Home of Freedom is yet imperfectly appreciated. We most admire the best of these hospital plans for their

ventilation and generous allotment pro rata of air-space to the patients, and for the breadth of ground they occupy. And it may be pardonable for a civilian to offer a criticism upon all the larger hospital plans given in this volume: They are *too large*. The aggregation of 2,000 or 3,000 patients upon such limited areas, even under favorable conditions for local drainage and external ventilation, will inevitably, after a number of months, induce endemic or localized conditions of insalubrity that will certainly increase the average period of recovery of the patients as well as augment the ratio of mortality. Though war creates military necessities, its successful issue is so truly "a problem of sanitary science" that the question of life-saving is paramount to all others in the medical department of the army service. It has been well stated by the British Military Hospital Commission, that "it should never be forgotten that the object sought in the construction of a hospital is *the recovery of the larger number of sick men to health in the shortest possible time*, and that to this end everything else is only subsidiary."

Various statements respecting locality, altitudes, and climate, which we find in Dr. Hammond's chapters upon those subjects, warrant the belief that he is fully alive to the advantages that would be derived from the distribution of certain classes of the military patients to hospitals located at higher altitudes and in a drier atmosphere than at the tide level where the principal hospitals have hitherto been located. And in such improved locations we believe the administration will be found more economical, the death-rates lower, and the average period of hospital residence shorter.

The chapter on field-hospitals is exceedingly valuable, but too brief. Surgeon Vanderkief's, in the oak-openings beyond the Antietam, is justly referred to as "a model for such establishments." We have preserved the statistics of the surgery in that and some other hospitals under canvas upon that bloody field, and never in civic hospitals do we expect to witness such favorable amputations, resections, and terrible wounds. Dr. Hammond strongly recommends that hospital tents or huts, when aggregated, should be arranged *en échelon* as a means of insuring the best ventilation.

Passing the chapters relating to the *lighting* and *warming* of hospitals, in which all is practically and clearly stated that concerns these important matters, we would quote largely from the most excellent chapter on *ventilation*, but like the sections which follow relating to *camps, food, and alimentary principles, physiological relations of food, compound aliments*, etc., we would cordially recommend every army officer to peruse these last chapters of the treatise first, for they are fullest of interest and practical suggestions. We cannot forbear the following brief quotations relating to heating, and to ventilation respectively, as illustrating the emphatic and definite opinions of the enlightened author. Speaking of the fashionable subterranean hot-air furnaces, he states:—

"It is only necessary to allow a piece of polished silver to stand for a few days in a room warmed in this manner to be convinced of the presence of the vapor of sulphur in the atmosphere, as the silver very rapidly becomes tarnished by the formation of the sulphuret. I have also caused the warmed air to pass through Liebig's potash-bulbs, and have always found an excessive amount of carbonic acid to be present, and yet I have seen educated persons, or those who from their position in life ought to have known better, crowd themselves, to the number of five or six, into a room scarcely fifteen feet square in which there was no window, in which two gas burners were lighted, and with the doors shut crouch over a flue from a red-hot furnace through which air hot enough to parch the skin was being discharged with horrible rapidity. Should it be a subject for surprise that such persons were annoyed with coldness of the extremities, and were haggard and ghastly-looking in the morning, and that they were afflicted with almost constant headaches, dyspepsia, and other affections

evincing disorder of the organism? As used in this country, hot-air furnaces, I have no hesitation in saying, are productive of more disease and discomfort than are caused by all the other means of producing artificial heat combined."

And respecting the amount of fresh air-supply to meet the physiological requirements of respiration, Dr. Hammond brings forth the following statement, which corresponds with the standard that our own observations long since led us to establish in the management of hospital wards.

"Thus Vierordt fixes the amount at 2½ cubic feet per minute, Dr. Reid at 10 cubic feet, and Dr. Arnott at 20 cubic feet. The first of these is undoubtedly too low, and the last cannot be considered as at all too high. From the nature of the problem to be solved, and from the many influences in operation capable of affecting the result, it is extremely difficult, if not impossible, to arrive at exactness. It may, however, be safely affirmed that, in a ward in which 1200 cubic feet of air are allowed to each patient, this amount should be entirely changed in each hour at the most, and this would require the admission of 20 cubic feet per minute for each patient. An allowance of 30 to 40 cubic feet per minute would, however, be far preferable. The object should be to render the atmosphere of the ward, as nearly as possible, similar in composition, as regards carbonic acid, aqueous vapor, and organic matter present, to that of the external air."

The closing chapters of the treatise treat especially of the alimentation and clothing of the soldier. Like all that precedes these subjects they are treated with reference to the practical questions and necessities of army life. The volume itself is a sort of epitome, as we imagine, of the first year's official duties of the Chief of the Army Medical Bureau. Indeed, this opinion is warranted by a casual remark in the preface, where the author says:—"There was no work then to which I could refer those who came to me for information; \* \* \* and as I had for several years given a large portion of my leisure to the study of hygiene, \* \* \* I concluded to devote the hours which would otherwise have been passed in rest, in preparing a volume upon the more important subjects belonging to the science of hygiene, especially those that have a bearing upon the military service."

Of this work, which, to say the least, should command the grateful appreciation not only of public hygienists, but of the National Government, the author states, "It is not pretended this volume is complete. There are several subjects other than those considered, such as Occupation, Exercise, the Excretions, Marriage, Celibacy, etc., which I would have been glad to have taken up, had I not been convinced that the need for some work on sanitary matters was imperative."

This patriotic and noble motive for preparing the treatise is most appropriately and beautifully testified in the dedication of the volume to Dr. Wm. H. Van Buren, whose eminent position and distinguished labors in the medical profession, and in the United States Sanitary Commission, are thus appropriately recognised by his former pupil. And it is no trivial encomium upon this book to say that the style, scope, and subject matter of its well digested chapters, its advanced status in scientific as well as severely practical arguments and statements, together with the superior typographical execution and illustration of the volume, are in every respect worthy the distinguished position and repute of its author. It is a book that must make its way into every physician's library, and which will be demanded in every medical class-room; and its future and enlarged editions, or supplementary volumes, will be earnestly looked for by all the cultivators of sanitary science.

**ERRATUM.**—The writer of the review of Dr. Hammond's treatise requests a correction to be made in the first paragraph from the bottom of last column, on page 163, in last number of this Journal. The words *cubic inches* are to be substituted for *cubic feet*, wherever the latter words occur in that paragraph.

He adds the following facts: It will be observed that the experiments of Dr. Hammond and Dr. Angus Smith, have unequivocally demonstrated the fact, which has been believed upon rational grounds, that deleterious organic and putrefactive matter rapidly accumulates not only in crowded apartments but in unventilated and damp places. The following table gives some of the results of Dr. Smith's tests of the atmosphere of various localities, with reference to ascertaining the absolute proportion of such noxious matters liable to be respired in those places:—

	cub. in.
1. Air at All Saints inside the laboratory 1 grain in	72,000
2. Front of the house . . . . . "	74,000
3. Behind the laboratory . . . . . "	60,000
4. Bedroom looking to the back . . . . . "	64,000
5. Same room in the morning after being slept in . . . . . "	56,000
6. Front of laboratory again . . . . . "	76,000
7. Back of the Medlock behind dirty houses . . . . . "	44,000
8. St. Michael's place behind a house . . . . . "	8,000
9. Inside a house at St. Michael's place . . . . . "	16,000
10. The front of the house . . . . . "	40,000
11. High grounds 30 miles north of Manchester . . . . . "	209,000
12. Closely packed railway carriage . . . . . "	8,000
13. When the strong smell of a sewer entered my laboratory . . . . . "	8,000

"Leaving out the three cyphers, we have a range of from 8 to 200, and I feel assured that we may go much lower than 8, as I entered no spots which were very revolting."

"The air of ash-pits, or rather of middens and cesspools such as the repositories of faeces essentially are in Manchester, was tried, and gave

grs.	cub ft.
1. 1 of organic matter in	62.2
2. 1 . . . . . "	62.2
3. 1 . . . . . "	58.9

"We have in different air breathed by people in the same county, a substance the amount of which in one case is 22 times greater than in the other, and in air breathed by people in the same town a difference which is as 9 to 22.

"These differences are not greater than are required in order to enable us to account for the numbers which represent the deaths of the various districts. In the district in which the highest numbers here given were obtained, there were, in 1855, 4.5 deaths in a hundred, whilst the average is 2.2 for the country."

Such facts require no comment, but they are exceedingly instructive.

## Army Medical Intelligence.

### ORDERS, CHANGES, &c.

Surgeon J. Owen, U.S.V., has been dismissed the service of the United States.

Surgeon Madison Mills, U.S.A., has been relieved from duty in the Department of the Tennessee, and assigned as Medical Director to the Department of the Missouri.

Surgeon Josiah Simpson, U.S.A., Medical Director, Middle Department, has been ordered to visit and inspect in hospitals and elsewhere, such officers and soldiers belonging to regiments on duty in the Middle Department, as are reported at those Headquarters, "absent sick," beyond the expiration of their furloughs. He will designate to Provost-Marshal those fit for duty for immediate return to their regiments, and provide the necessary certificates of disability for discharge or transfer to the Invalid Corps, in cases requiring such action. All officers and men designated as fit for duty will be immediately sent to join their respective regiments.

Seven hundred wounded rebel prisoners have been ordered from Chester, Penn., to Point Lookout, Md.

A person, calling herself "Mrs. Major Gage, Surgeon U.S.V.," has been representing herself to Surgeons in charge of hospitals in the North, as holding the President's commission as such, and demanding quarters, fuel, etc. It is needless to say that no such person is known or recognised by the Medical Department.

## Original Lectures.

## CYANOSIS.

BEING REMARKS MADE IN THE DISCUSSION OF DR. LEWIS SMITH'S PAPER AT THE STATED MEETING OF THE N. Y. ACADEMY OF MEDICINE, HELD MAY 14, 1868.

By A. JACOBI, M.D.,

PROF. OF DISEASES OF CHILDREN AND INFANTILE PATHOLOGY AT THE N. Y. COLLEGE AND CHARITY HOSPITAL, N. Y.

I CLAIM that the profession is under great obligations to Dr. Smith for having prepared his paper. Medical publications have been replete with single cases of Cyanosis for twenty-five years past, but complete reviews of a large number of cases have been very rare. It is true that some such are to be found in text-books and some in medical journals, but the collection of cases made by Dr. Smith is, as far as I know, as great in number as can anywhere be found. Dr. Smith is modest enough to excuse himself for writing such a paper, but when we still see in one of the latest books on diseases of children, Dr. Tanner's, that it is laid down that the cause of cyanosis is the patency of the auricular septum, there certainly is call enough for such a paper as that which we have come together to discuss.

There are parts of the paper of such excellence that I deem it altogether unnecessary to use up time in going over the ground again. I wish, however, that I could say the same of those portions of the paper which treat of the definition of cyanosis, and its etiology and pathology.

First, the Dr. says that "cyanosis is actually a blood disease;" that "its pathological state may be expressed as follows:—Blood venous in character in the arteries as well as veins. It would be better did its name express its nature, as in leucocythemia, but medical nomenclature is generally defective. A symptom or appearance is often selected as a name, and no harm is really done, provided we are not led into the belief that this symptom or appearance is the disease itself." This then would be my first objection to the paper, that cyanosis is taken as a disease, the true character of which is due to nothing save the condition of the blood. In another place the Dr. says that "there seems to be a tendency on the part of some to ignore cyanosis as a disease;" if that is a tendency really manifest, I believe it to be a very good one.

The Dr. gives 14 distinct malformations which are capable of causing cyanosis, and besides, mentions other conditions capable of inducing it, such as overloading the stomach, violent exertion, etc.; and finally, on page 316, he details the causes of death in cyanosis, which it must be admitted are very variable. We have in this catalogue, dyspnoea, convulsions, apoplexy, hæmorrhage, phthisis, exhaustion, coma, cerebral irritation, effusion into the cranial cavity, thoracic inflammation, diarrhoea, scarlet fever, croup, and so on, and so on. Now I believe that when we have fourteen malformations, every one of which may be the cause of cyanosis and a number of other diseases, which may be the cause of death, we have no right to look upon cyanosis as a disease *per se*. He says: "It would be better did its name express its nature, as in leucocythemia," etc. Now the term leucocythemia means nothing but white-bloodedness: it is simply a condition in which the normal relation between the red and white corpuscles is changed in a certain manner. There are now, too, two varieties of this same leucocythemia, which it has been found necessary to make, in order to express the precise condition of things which exists with this symptom (for it is only a symptom), viz. the splenic and the lymphatic. Therefore, Dr. Smith's comparison is not tenable. During the last century the diagnosis of a case was considered as made when it was called dropsy. Nowadays none of us would make such a diagnosis; we would be ashamed to do no better.

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There are a number of cases of cyanosis that terminate fatally within a very short time, and though during life we may call it cyanosis, we will find after death that the cause had been either lobular pneumonia or atelectasis. We then have it proved to us that cyanosis was but the symptom of the protracted difficulty that existed. Thus, in my opinion, the attempt on the part of Dr. Smith to prove that cyanosis is a new disease, is only an evidence of a retrograde movement in medicine.

As our object in the discussion of any subject is to arrive at the truth by the free expression of opinion, I shall take the liberty of alluding to what I consider the weak points of the paper. One of the weakest points in the paper is that which treats of the etiology of the disease. The Dr. says:—"The cause of the malformation on which cyanosis depends is wrapt in much obscurity. Sometimes mothers attribute it to strong mental impressions felt during utero-gestation. The mother of a patient treated by Dr. Peacock stated that, 'two months before her confinement, she was frightened by seeing a child killed, and never recovered from the shock she sustained.' In another case 'the mother was much out of health, and stated that, when pregnant with the child, she was greatly alarmed by seeing a man who was dying of asthma.' In another instance the mother was frightened at the fifth month of pregnancy; and in still another case, recorded by Dr. Peacock, the mother, four or five months before her confinement, 'was greatly alarmed by her husband, who was insane, standing over her for two hours with a loaded pistol.'" Now it would be better for Dr. Smith, before he gives credit to, or barely mentions such causes, to go a little into the study of embryology. It is not necessary to go into this subject to any great extent to know that first there is a period of development in which there is no septum whatever, either in the ventricle or auricle. The formation of this septum belongs to the first few months of foetal life: the formation of this septum is sometimes not complete, and sometimes differs a little as to its position. When the auricular septum is not complete, we have the foramen ovale remaining open, or we have no septum, or we have, in the case of the ventricular septum remaining open, a perforated septum ventriculorum; or we have no pulmonary artery, but only an aorta, and so on. As to their position, the septa may be found either too far to the right or to the left, and thus give rise to the abnormal origin or transposition of blood-vessels. Where the auricular septum is found too far to the right, the inferior v. cava is found to discharge its contents into the left auricle. Where the ventricular septum is found too much to the right side, the pulmonary artery originates from the left ventricle, or from both the right and left. Where the same septum is found more to the left, the aorta originates wholly or partially from the two ventricles. In this case there may be also a vicious development of the ventricles themselves. The third period of foetal development must be considered as directly introductory to later life: the v. cava inferior moves to the right, the valve of the foramen ovale fits the margins of the foramen, the former aorta ascendens is transformed into aorta, the descendens into pulmonary artery, while the ductus arteriosus Botalli decreases in size. Where the vena cava inferior does not extend sufficiently to the right, the valve, being only a duplicature of the living membrane, does not cover the foramen entirely; it then remains open. Where, however, the reverse position takes place, the foramen will close too early.

At this period, also, must be sought the first occurrence of atheromatous degeneration and incompetency of the valves, with or without either contraction or dilatation of the orifices; also, a number of anomalies in the character and size of blood-vessels, especially the pulmonary artery. There are two anomalies in its case, which have frequently been confounded with each other: the obstruction or contraction of the conus arterie pulmonalis, which is very frequent, and the contraction of the ostium. The latter will result from nothing but inflammation and contraction of



the valves, and their ring of insertion. The former, also, must not be taken as a simple arrest of development, but as the result of an inflammatory process. Simpson already believed in inflammation as the cause of these arrests of development; Bouillaud attempted to localize inflammation in the lining membrane, thus attributing those anomalies to endocarditis; and, finally, Dorsch has proved to my satisfaction that the conus arteriosus of the right side is principally due to inflammation of the muscular substance, myocarditis proper. When this process takes place in very early fetal life, its residues may disappear, nothing being visible afterwards, except either a very narrow slit or complete obstruction of the pulmonary artery. In the majority of cases, however, a hard and dense tissue is found, a cicatrix of fibrous tissue, indicating the last stage of the process. It is true that no recent case is on record, but only such in which the process has run through its full course. But this fact is easily explained by the other fact, that this inflammatory process includes very little, if any, danger for the continuation of fetal life to its normal termination, thus depriving us of every opportunity of seeing a case in its first stage. It is but natural that, by the described anomaly, the development of the conus arteriosus is arrested; at the same time the foramen ovale is kept open by the blood being not expelled with sufficient ease, and the valves of the pulmonary artery, and the artery itself, remain delicate and small. At the same time, and from the same cause, the formation of the ventricular septum is interfered with—I speak of that early period in which the formation of this septum is barely commenced with—and the aorta will be found to originate from the two ventricles at once. This anomalous origin of the aorta results in the necessity of its supplying and controlling, in later life, both the large and the pulmonary circulations.

What do we know of the remote causes of all these anomalies depending on myocarditis? Very little indeed; not more, in fact, than of the remote causes of the majority of other diseases in extra-uterine life. But it may be noticed as a remarkable fact that, almost without exception, the malformations of the heart of the new-born, of whatever nature, are found in its right side. This fact must be explained by the physiological action of the right heart, which by far exceeds that of the left, from the well known laws of fetal circulation. Thus, I have no other explanation to offer but this:—That the cause of morbid changes and functions must be sought for in its physiological over-exertion. Whatever organ or part of the system has to make the greatest efforts, to undergo the greatest exertions, is always most apt to exchange its physiological condition for a pathological one.

I cannot leave the subject without alluding to the several theories proclaimed as the true explanations of every one of the numerous cases of cyanosis, viz:—

1. Obstruction of venous circulation.
2. Mixture of arterial and venous blood, and
3. Want of oxygenization.

I claim that not one of these theories suffices to explain every single case of cyanosis. It will be readily understood that a single exception to a rule proclaimed as general, would reverse the assertion of uniformity in the cause and character of cyanosis.

It is true that many cases of cyanosis originate in venous obstruction depending on overloading the right heart, or at least it can be said that in many cases this obstruction and even enlargement of the veins can be found. This was especially distinct in the case of a cyanotic child who died at Ward's Island, some five years ago, at the age of five years. It was a case of absence of the pulmonary artery, the aorta originating in the two ventricles. I owe to the kindness of Dr. Simrock, then a resident physician of the Emigrants' Hospital, the specimen, together with some notes concerning his ophthalmoscopic examination of the retina of the patient, made some time before death. He says:—"The ophthalmoscopic examination of the eyes of the cyanotic child revealed an enormous but equally dis-

tributed dilatation of all the veins of the retina, to such a degree that up to the most peripheric ramifications their width appeared to have doubled, and even more. In short, their calibre was so much enlarged that I have never seen its equal or similar. The arteries of the retina were of the normal size. The retina appeared a little more red than usual, but could not be termed cyanotic, as it showed nowhere the least bluish tinge; nor was the color of the veins blue, but of a dark reddish tinge. No pulsation of the vessels of the retina could be seen, unless artificially produced. Otherwise, the condition of the retina in both eyes was normal. The vessels of the choroid could not be perceived."

But there are a number of cases of congenital contraction of the pulmonary artery in which no cyanotic hue was perceptible during life. Nor do we know else but that in common cases of overloading of the right heart, local congestion, and hemorrhages, or anasarca, or diarrhoea, and the other symptoms of intestinal catarrh, or varicose dilatation of the hæmorrhoid veins, or headache, etc., according to the locality and power of venous obstruction, all these symptoms are found rather more frequently without than with cyanosis. It has been stated, however, that the slowness of circulation in the newly born is such as to give rise to cyanosis before dropsical symptoms can set in. This is not so. We all know the slowness of circulation in an attack of syncope; the surface is pale, but not in the least cyanotic. And the single case of Duchek's, of an infant of three days suffering from all the symptoms of general droopy, in consequence of disease of the right heart, without being cyanotic, would reverse the plea of slow circulation.

Further, the theory of the admixture of arterial and venous blood, supported by Gintrac, Corvisart, Gendrin, Aberle, Hope, etc., is not applicable to all the cases of cyanosis. There is the case of Bresschet, in which the subclavian artery originated directly in the pulmonary artery. In that instance the arm was supplied with venous blood, but yet there was no local cyanosis. There is another case of Rees, where the abdominal artery originated in the pulmonary artery, but nevertheless there was no cyanosis in the corresponding locality. This is a strong argument against the second theory. And, furthermore, we know that in the foetus there is a constant commingling of what may be called arterial and venous blood, and nevertheless there is no cyanotic hue on the surface of the foetus. Again, we have the cases reported by Bizot, Rokitsky, and many others, of large openings in the auricular septum, and no cyanosis. Lacroix found an opening of the size of a five-franc piece, and no cyanosis; Zehetmair found a heart without a ventricular septum, and no cyanosis. I take the liberty of here showing part of the heart removed from the body of a woman of about 50 years, in the dissecting-rooms of the New York Medical College. There are two openings in the auricular septum, one one-sixth, the other one-fourth of an inch in width, and no cyanosis. But I state at once, that the openings are oblique, and were certainly closed by the bilateral pressure of the blood during the systole of the heart.

The question is—How such a mixture could go on at all? Generally, whenever the foramen ovale was found open, or a deficiency in the septum of the ventricle, it was taken for the full cause of cyanosis; but as far as the foramen ovale is concerned, I have to state that in 1000 cases of post-mortem examinations but 440 were found to show some perforation of the foramen ovale, and in none of these 440 cases was there cyanosis. There are a number of cases in which the foramen ovale was an inch large in the adult, and yet there was no cyanosis. There was no cyanosis in cases where the ventricular septum had a perforation of one-quarter to one-half in diameter. How is this? It simply shows, that the contraction of the two sides of the heart is simultaneous—each one of the two has the same amount of work to perform, and consequently the different currents are not disturbed. If, however, the amount of contraction

is unequal in consequence of valvular diseases, or hypertrophy of one side, this equilibrium is not kept, and we accordingly have a commingling of two currents.

In consequence of the many objections to the universality of the mixture theory, it has been given up by the majority of medical writers. They followed the same erroneous impression which prevails in Dr. Smith's paper, that, necessarily, there must be a common essential cause to all the cases of cyanosis. With the same reason you would have to look for one and the same anatomical cause in different cases of anasarca, or diarrhoea, or hæmorrhage. In order to show how wrong they are, and how little Dr. Smith's theory will stand a thorough examination, I present a specimen taken from an intensely cyanotic girl of five years. In this heart, which is of normal size, the two ventricles are of nearly the same size; the right auricle is but the common sac for the normally developed veins. The pulmonary veins are fully developed, showing that they have always been swelled with a normal amount of blood. There is not a single abnormal valve, every one being competent. The aorta is very large up to the arch, and originates in the two ventricles; its valve is competent. Its size diminishes in the same degree as it sends off a large number of large bronchial arteries (in the specimen you count twenty-two), which have to supply the lungs with blood in lieu of the pulmonary artery, which is too small to carry more than one-fifth of the normal amount of blood, but is normal otherwise. The numerous and large bronchial arteries are evidently fully sufficient to supply the lungs. The size of the pulmonary veins, moreover, proves that they have their full duties to attend to. There is no symptom of overloading of the heart; there is, in fact, nothing which "prevents the free and regular flow of blood to, through, and from the lungs." And yet there was the most intense cyanosis I have ever witnessed. After having examined this specimen repeatedly and scrupulously, and submitted it to the most critical examination of medical friends, as I herewith do to yours, I claim it as a proof of my assertion, that this was a case of cyanosis depending on the mixture of arterial and venous blood. Thus I wish you to dispose of those who gave up the mixture theory because it did not explain every case, and selected another not more satisfactory; and also of the theory of Dr. Smith, who says, that "cyanosis is due to vices, or defects in the organism, usually congenital, which prevent the free and regular flow of blood to, through, or from the lungs." When we think of the large number of bronchial arteries supplying the lungs, and of the numerous collateral ramifications from the intercostal and internal mammary, which assume the same function by taking the place of the pulmonary artery—vessels which Dr. Smith kindly believes to be generally overlooked by other anatomists—and further, when we bring into account the usually normal size of the pulmonary veins,—all of which you will also perceive in two other specimens I have with me: Dr. Smith's theory is simply reduced to the old theory of Billard, Hunter, Sandifort, Nevin, and others. This theory explains every case of cyanosis by deficient oxygenation, no matter whether the local cyanosis depending on local compression of veins could be explained by this theory or not; nor that the fœtus is not cyanotic, although greatly inferior in the amount of oxygen contained in the maternal-fœtal blood.

It is true that the majority of malformations cyanosis is found with, fall under the head of Dr. Smith's theory. But if his theory was the right one, we ought to see cyanosis in every case where circulation to, through, and from the lungs is effectively interfered with; thus, in every serious case of pneumonia, particularly when bilateral, emphysema, and a number of valvular diseases. This, however, is not so. Thus the theory of Dr. S. is inconsistent with true pathology for two reasons: 1stly, because there are cases of cyanosis which evidently have other, and distinct causes; and 2ndly, because in many cases in which the anatomical condition required by his theory is present, there is no cyanosis.

I say again, that any theory which is to yield a universal explanation of, and to be identified with cyanosis, must not allow of a single exception. Every single case explainable by other causes diminishes, or rather destroys the probability or possibility of its being the true theory. And thus, as hitherto, we shall have to explain the symptom called cyanosis, sometimes by an obstruction of circulation, sometimes by the mixture of arterial and venous blood, sometimes by deficient oxygenization, and at other times by a complication of two or more of these causes. It may even happen that we have to call in other, more subordinate causes. Who, for instance, can tell whether or not the deficient nutrition of the nervous system, and particularly of the pneumogastric and sympathetic nerves, resulting from the mixture of arterial and venous blood, may not bring on a retardation of peripheric circulation without the presence of a mechanical obstruction?

Medical science has long attempted to become free from terms indicating a symptom or a complex of symptoms, which formerly assumed the dignity of diseases in the vocabulary of pathological anomalies. Where we are enabled to arrive at an anatomical diagnosis, we do not make use of such terms. Thus many a case which formerly would have been called cyanosis in a newly born, is at present congenital pneumonia, or atelectasis, or incompetency of a valve, with cyanosis among the accompanying symptoms. In the same manner we do not diagnosticate dropsy, but a distinct cardiac disease, or fatty degeneration of the kidneys, or cirrhosis of the liver, etc., with dropsy among the symptoms.

I claim, then, cyanosis as a common symptom of a number of different anatomical lesions, either congenital or acquired, and deny its essentiality as a disease *per se*.

## Original Communications.

### IS ANTE-FLEXION OF THE UTERUS,

WITHOUT LEUCORRHEA OR ENGORGEMENT AND ULCERATION,

#### A PATHOLOGICAL STATE

REQUIRING SPECIAL REMEDIAL TREATMENT?

By S. OAKLEY VANDERPOEL, M.D.,

OF ALBANY, N.Y.

OF late years a great impulse has been given to the progress of uterine pathology. The study of the ovum and its development has been greatly perfected, while the improved methods of exploration have enabled pathological states to be readily and promptly recognised. It is, however, in the observation of organic lesions and their remedial agencies that the greatest progress and true amelioration may be said to be attained. The boon to humanity conferred in this study by a few earnest, noble men, we consider inestimable. In acknowledging fully this obligation, let me not be misunderstood if I criticise strongly that disposition, I might say *fashion*, now so prevalent in the profession, to see in every ailment which the female presents a *uterine* disease, and find in every accidental condition which the uterus presents, upon an examination by the speculum, the *fons et origo* of all her ailments. So fashionable is it, that nearly every village, certainly every water-cure establishment, has its doctor who dexterously uses the speculum, and who faithfully applies his caustic to the inflamed follicular surface of the cervix with the same industry that a few years since it was applied to the fauces, to neither of which would any permanent benefit result unless at the same time the depraved condition of the general system was improved.

Progressing on this one-idea theory, the different accidental positions of the organ have been persistently treated; some employing the ingenious contrivance of the stem pessary and its resulting tortures; others, the daily

straightening the uterus by introducing one finger into the vagina and another in the rectum or over the pubes, according to the nature of the deviation. It seems hardly credible so absurd a process as this latter should be gravely pursued. We certainly have more respect for the man who administers his infinitesimal dose of oyster-shell than for the one who will for weeks practise this latter upon his confiding patient.

It is the object of this paper to inquire how far one of the most commonly assigned deviations, viz. "simple ante-flexion of the uterus," without engorgement or ulceration of the cervix, and without any leucorrhœal discharge, may be considered a pathological condition demanding special remedial appliances. We answer, a condition of the organ presenting the above characteristics does not require special remedial appliances. Further, that when presented in a patient with enfeebled system, she will recover equally well without them; that, when recovered, the vicious condition of the organ may continue without inducing disturbance, or in any way affecting the general health. According to careful researches of M. Soudry, conducted under the supervision of M. Barthez of Paris, ante-flexion may be considered almost the normal condition prior to puberty. Twenty-three per cent. of those examined presented this condition of the organ. It becomes less and less frequent after puberty, and disappears where pregnancy has occurred. This condition, then, so constant in early life, should not excite surprise if discovered in the female who has never been pregnant. M. Aran explains this state as follows: "This ante-flexion of the uterus has really nothing mysterious or difficult to understand; it is nothing more or less than the result of pressure exercised during foetal life by the abdominal viscera upon the still soft and little resisting part of the uterus; that is, upon the body, when that organ is still inclosed in the abdominal cavity proper." If, then, ante-flexion prior to puberty may be regarded rather as the normal state, surely its presence after this period, where no conception has occurred, and where no indications of suffering of the organ, as indicated by engorgement or ulceration of the cervix, or uterine leucorrhœa, present, need not be considered a pathological state demanding special remedial agents. Rather should it be the aim of the physician to foster that instinctive delicacy, the charm and attraction of the sex, than by daily manipulation blunt the finer elements of her nature.

We have, in addition, the testimony of late writers upon this subject; M. Aran, in his clinical lectures on "Maladies de l'Uterus," says: "Flexions of the uterus have not, in general, as unhappy an influence upon the health as many other uterine affections. Many females carry them all their life without notably suffering therefrom. Some appear more innocent than others, such as *ante-flexions* and *latero-flexions* of the body of the organ; the different flexions of the uterine neck—"

Scanzoni, than whom a more careful and truthful observer, or a more clear and concise delineator, has not written, says: "In the commencement of our practice we were ourselves of the number of those who, as Kiwisch, Mayer, Simpson, Valleix, and others, could not too highly estimate the baneful influence of *flexions* upon the whole constitution of the sufferer. We avow even that it is not without difficulty to renounce an opinion which even to this day has been considered by a great number of our most illustrious confrères as one of the greatest advances of our science. Nevertheless, in view of so great a number of facts proving the contrary, it has been impossible not to change our opinion. So that now we are convinced that *flexions of the uterus do not acquire any importance, are not followed by serious dangers, except when they are complicated with some other alteration in the tissue of the organ.*" It is not of course necessary to enumerate the reasons by which this conclusion is reached.

One point, however, cannot but have struck every practitioner. After rising from the perusal of the careful descriptions given of the different forms of deviation of the

uterus, and profoundly impressed with the necessity of exerting all his skill and energies to their correction, when presenting in his practice, yet in his daily experience he is constantly reminded of the *perfect indifference*, so to speak, of position which the uterus takes in the pelvic cavity, while the individual is in this part without suffering, or any manifestations of a morbid condition. Sometimes the cervix is almost in the vulva; again, resting on the floor of the vagina, tilted to the pubes, or inclined to either ilium. Shall we arbitrarily assume these as morbid conditions, and place our patient, unconscious of any such state, under specific treatment? Yet such, we fear, is too much the tendency of the day. If innervation be at fault, from imperfect assimilation, and a relaxed tonicity of the muscular system follows, the uterus, through loose attachments and elastic ligaments, is among the first organs to show it by some deviation, yet without any positive exhibition of suffering from the organ itself. Such cases, we contend, do not require local treatment. The uterus, by all appliances, either local or derivative, will never assume its normal position until the tone of the general system is rendered healthy. This accomplished, there will be no call for further local manipulation.

To us it seems absurd to argue against the necessity of either derivative treatment or local manipulation for a simple ante-flexion, without any accompanying signs of suffering in the uterus, did we not know that it was deliberately advised and acted upon. We have seen ladies who, almost daily for three months, were subjected to manipulations for straightening an ante-flexed uterus with the finger; others, anæmic and with deficient innervation, subjected to issues for the same purpose. In either case it was not pretended but that the ante-flexion had existed a long period; if so, the tissue of the anterior wall must be condensed, and that of the posterior extended. Would any such measures produce an equilibrium between them? Analogical reasoning shows its futility.

If suffering does result, and which we do not deny may and does occur, it will be manifested in some manner by the organ itself. Then the treatment of supporting the uterus by some form of stem pessary, would seem the only one from which benefit could be expected. Comparatively few, however, can tolerate them, and our experience has been that patients leave the hands of those who have specially treated them for this affection no better in this respect than when the discovery of ante-flexion was first made.

We have been drawn into the foregoing train of thought from the *fashionable* prevalence of viewing every disease of the female of *uterine origin*—of studying that whole system of harmonies from a single stand-point, and attempting from that to comprehend the whole.

Much as we extol and commend the principle in some departments of the profession, of devoting the time and energies to a single branch, there are others in which it degenerates to a one-idealism, and belittles rather than enlarges the domain of our science. To such tendencies we must enter a stern protest. While the uterine system is the starting-point from which sympathetic suffering radiates over the whole system, it is quite as often but secondarily implicated. It should be the duty of the honest interpreter to give such condition its true signification, not unduly elevating a slight pathological condition into an explanation for long continued and severe sufferings in other organs.

Sept. 30, 1898.

M. DEBOUT says that sugar is an excellent destroyer of worms. He once accidentally put sugar instead of salt on a leech which he wished to detach from the skin, and was surprised at the spasms produced by it. He therefore tried sugar on earth-worms, and found it had a similar powerful effect; and has since used it in solution with success as an injection in children.—*Brit. Med. Jour.*

## REMOVAL OF BROKEN CATHETER

FROM BLADDER.

• BY SURGEON C. S. MUSCROFT.

MEDICAL DIRECTOR, U.S.A.

JACOB SHEETS, a corporal of Co. I, 101st Ohio Vol. Inf., was admitted into one of the hospital depots of the 3d (Maj. Gen. Rosecrans) Division, 14th Army Corps, in the Dept. of the Cumberland, on the 1st day of January, 1863, having been wounded on the day previous by a ball (supposed to be a minié) at the battle of Stone River.

The ball entered from behind at the inferior border of the gluteus maximus muscle an inch and a half to the right of the mesian line, and passed obliquely forward and upwards, wounding the urethra in the posterior third of its spongy portion; then making its exit at the superior portion of the scrotum half an inch to the left of the raphe, it having passed through the superior third of the left testis. When the patient was first admitted, his penis and scrotum were enormously cedematous, with ecchymosis extending above, over nearly the whole of the hypogastric and iliac regions. When he attempted to urinate, the water flowed freely from the wound anteriorly; consequently he had voluntarily retained his urine for twenty-four hours. A silver catheter was now introduced, and the contents of the bladder evacuated, after which a gum elastic catheter was substituted, and left in the urethra, being confined there by suitable dressings. The catheter was so arranged as to conduct the urine into a glass bottle. Compresses wet with cold water were applied to the inflamed parts.

Jan. 3d.—The scrotum appeared nearly the same as on the first, except that it was softer and fluctuating. The penis was still swollen, discolored, and cedematous. Two incisions were made through the covering of the testes into the sac of the tunica vaginalis. The discharge of pus and fetid urine was abundant.

Jan. 5th.—The ecchymosis in and about the penis was much diminished, but a portion of the scrotum was evidently gangrenous. A line of demarcation had formed on the seventh, and on the tenth had separated, leaving the testes bare to the extent of nearly the whole of their anterior surface.

Adhesive straps were then applied to the remaining integument of the scrotum, drawing the edges together as near as possible, to form an anterior covering.

About this time the urine became loaded with sediment, leaving a light colored gritty deposit on the end of the catheter which protruded into the bladder, also filling the whole of the length of its tube, preventing the passage of urine.

This was removed, and another introduced. In three days, it became filled with deposit in like manner to the former one, and another of smaller size (which was the only one at hand at the time) was introduced.

On the following morning (the 25th) I was called to see the patient, and found that the catheter had been broken off about midway; the distal end, which was the longest, having fallen out of the urethra, the other remaining in, the outer end of which could be distinctly felt with a probe.

In this emergency I called upon Surgeon C. S. Muscroft, the Medical Director of the 3d Division, who readily responded, bringing with him a long, straight, narrow bullet forceps, which was the only instrument in his possession that promised any success in the extraction of the remnant of the catheter. The patient was put under the effects of chloroform, when it was found on examination, that the remaining end had receded behind the symphysis pubis into the membranous portion of the urethra, and could not be reached with the straight forceps. Here Dr. Muscroft ingeniously improvised a curved forceps by heating those he had in the stove, and bending them to the proper curvature over the window-sill. The patient being still under the influence of chloroform, the forceps were again intro-

duced, and after persevering efforts, the broken piece of catheter was nicely and firmly grasped, and extracted.

The catheter was not again introduced, but pressure with compresses and adhesive straps was made around the urethra with a view to re-establish the natural urinary channel and obliterate the fistulous opening.

This was successfully accomplished. The urine was voided freely from the meatus externus, none escaping at the wound.

On the 27th, the patient had a heavy chill, and on the following day complained of great pain in the perineum at the right and lower portion; a slight degree of redness and swelling was perceptible. On the fifth day following, an abscess had formed, which was punctured, and discharged a large quantity of pus. From this time forward the patient steadily improved, and was discharged from the hospital cured.

THIRD DIV., 18TH A.C.,  
DEPT. OF THE CUMBERLAND.

B. C. BRETT,  
Assist. Surg. 21st Reg. Wis. Vol. Inf.

## EXPULSION OF TÆNIA BY THE PUMPKIN SEED.

BY THOS. M. FLANDRAU,

SURGEON 146TH N.Y. VOL.

In the case of a girl, æt. 12 years, I administered two ounces of the pumpkin seed, grated with half a pint of sweetened water, after a fast of thirty-six hours. Nothing but tea was allowed during this period. One ounce of castor oil was taken two hours after the seeds.

About twenty feet of the tape-worm were passed during the action of the cathartic.

As I left town to rejoin the army on the day the prescription was made, I am unable to state whether the head of the worm was evacuated. No other vermifuges had been used.

A protracted fast being regarded as an important point in this method of expelling tænia, it is perhaps worth the trial to decide what would be the effect of the castor oil, so given, without the pumpkin seed.

CAMP NEAR CULPEPPER C. H., VA.,  
Oct. 8, 1868.

TWO CASES OF HOSPITAL GANGRENE,  
OCCURRING WITHOUT PREVIOUS WOUND.

BY FRANK H. HAMILTON, M.D.,

PROF. MILITARY SURGERY AND FRACTURES AND DISLOCATIONS  
IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE, N. Y.

CASE I.—General Hospital No. 4, Nashville, Tenn. Wesley Frost, of the 85th Illinois Vols., was convalescing from a severe attack of pneumonia, when, about the twenty-second of March, 1863, a small vesicle appeared upon the front of his right leg, where the skin was perfectly sound. This soon dried up, became black, and the sloughing commenced.

This man had never had syphilis, or any other constitutional specific malady, but at the moment of his attack he was exceedingly feeble. There were at the same time two or three cases of hospital gangrene in an adjoining ward, but none in the ward which he occupied.

On the fourteenth of April, when my attention was first called to him, the gangrene had been corrected by bromine, but the ulcer covered eight inches by four of superficial surface, and the shaft of the tibia was dead.

Some time during the month of August, by the courtesy of the surgeon in charge of the hospital, I was permitted to remove the dead bone, which was found to include all, or nearly all, of the tibia intermediate to the epiphyses. I have seen him several times since then, and find the wound cicatrizing finely, and his general health steadily improving.

II.—On the 26th of March, 1863, I saw, in General

Hospital No. 7, at Louisville, Ky., a Confederate soldier, Travis Austin, with two large ulcers, one upon the right wrist and the other upon the right leg, near the ankle, both ulcers being the result of hospital gangrene, which had been arrested by the use of bromine, applied as recommended by Dr. Goldsmith.

I was informed that he had not been wounded, but that he was admitted on the fifteenth of February, 1863, with purpura hæmorrhagica. He had been living a long time without fresh vegetables, and he was no doubt scorbutic. The gangrene commenced almost simultaneously both upon his wrist and his ankle, as a small pimple, from which point it rapidly spread.

## DISLOCATION OF THE SECOND PHALANX OF THE GREAT TOE.

By J. M. CLEAVELAND, M.D.,

OF THE STATE LUNATIC ASYLUM, UTICA, N. Y.

CARSTEN HOLTHOUSE observes that "dislocations of the second row of phalanges (toes) are so rare that Malgaigne could find but two examples of the accident on record; one was a compound dislocation affecting the great toe, and the other the third toe." See *Holmes's System of Surgery*, p. 672, vol. ii.

I give you the following case, not knowing whether the silence of the records referred to be owing to the rarity of the accident, or to its insignificance.

J. C., aged 38, a stout muscular man, a patient in the State Lunatic Asylum at Utica, being teased by a fellow-patient, ran after the latter, and dealt him a kick with his right foot, on which he wore a slipper. He suffered neither pain nor inconvenience in walking until six hours afterwards; when the great toe of the right foot became swollen, red, and acutely painful. On examination the great toe was found to be shortened, and the second phalanx dislocated backwards, and the extremity of the toe inclined upwards and slightly towards the second toe. Under iced water-dressings for two or three days the pain and swelling so far subsided, that reduction was easily accomplished.

## CASE OF IMPERFORATE ANUS; THE BOWEL TERMINATING IN THE URETHRA.

By H. P. STEARNS, SURGEON U.S.V.,

IN CHARGE OF U.S. GENERAL HOSPITAL OF PADUCAH, KY.

I was asked, September 20th, by one Mr. Miles, to visit his child, and, if possible, relieve it by an operation, as there was no "outlet," as he expressed it, for the contents of the bowel.

I found the child, a well formed male, of about eight pounds weight, perfect, with the exception of the anus. The bowels were somewhat distended, and the child appeared to be in some pain, and was apparently making efforts to discharge the contents of the intestine. Chloroform was administered by my friend, Dr. L. S. Horton, and I proceeded to dissect through the integument or semimucous membrane, and carried the dissection about one inch and a half, finding no rectum or bowel. By introducing the finger I was able to distinctly feel the movement of the contents of the abdomen at each inspiration, my finger resting upon what I judged to be the peritoneum. As nothing could be felt indicating the location of the bowel, I came to the conclusion that it probably terminated in a *cul-de-sac* in some portion of the colon. If this should not prove to be the case, I thought it possible that, as it became more distended, it could be felt by the finger, and, consequently, introducing a tent, I left, promising to see the child again the next day.

Upon my next visit I observed something about the penis which appeared to be fecal matter, and the attendant said that the child had passed fecal matter from the penis with much effort. No bowel could be felt through

the dissection which I had made, and I consequently left the result to nature, supposing the child would only survive a few hours. It died the next day at eleven o'clock A.M., having lived three days, and, as the attendant informed me, had three distinct fecal discharges by the urethra. Six hours after death I made an examination, and found all parts normal except that the bowel terminated in the urethra, entering it just in front of the prostate gland. I should add that the genitals were much larger than is usual, being of the size of those of an ordinary child eight years of age.

PADUCAH, KY., Sept. 30, 1868.

## Progress of Medical Science.

PREPARED BY E. H. JANES, M.D.

### PREVENTION AND CURE OF PUERPERAL INFLAMMATIONS.

WHILE there exists a greater or less mortality in childbed, the subject of its causes, prevention, and cure, cannot be too faithfully studied by the medical man. An elaborate paper on this subject, by Dr. ROBERT JOHNS, is published in the last number of the *Dublin Quarterly Journal of Medical Science*, founded upon many years' experience and observation, in which we are told that in by far the greater majority of instances, especially in private practice, *post partum* inflammation is either induced or overlooked by the medical attendant, from want of practical knowledge or attention on his part, or from neglect or violation of his directions by the nurse, by the patient, or her friends. In addition to his own observation, he is supported in this remark by such authority as Drs. Denman, John Clarke, and White. Without presuming to discuss the pathology, or to recommend any new specific for the treatment of the disease, the object of the paper is to point out some of the principal causes, and show how they may be avoided, or, failing to prevent the disease, to point out the best means for removing it. He views prevention in a twofold light: in one, our object being to avoid or remove predisposing causes; and in the other, when these causes have obtained, to counteract their baneful influence by adopting that treatment most likely to ward off the anticipated danger; and this he believes is best effected by adopting as a prophylactic—though less actively—the most powerful of those means successfully employed for cure of the disease. Should this fail, we have the advantage of having commenced treatment early in a disease which runs its course so rapidly. Though the causes of post-partum inflammation are numerous, the following are classed among the most frequent and most powerfully predisposing:—1. *Impaired health during pregnancy.* This we should remedy as far as possible by insisting upon the use of proper kinds of food, and regularity in the mode of living towards the end of pregnancy, by paying proper attention to the bowels, and by all means prevent an accumulation of feces. By seeing the patient occasionally, much may be done towards keeping her in good health. 2. *Want of cleanliness and ventilation.* *Hospital influence.* The remedy for this is obvious. The only means of arresting the disease when prevailing in a public institution is in shutting up, cleansing, painting, and thoroughly ventilating. As an example, he mentions the report of the Royal Maternity Charity of London for 1861, in which year 4,110 women were delivered, and 11 died, not one of whom had puerperal fever, while during the same period this disease largely embittered the charity of the London lying-in hospitals. 3. *Contagion. Epidemics.* This part of the subject is not confined to epidemics of puerperal fever and its kindred disease, erysipelas; but typhus, scarlatina, small-pox, physicians engaged in anatomical pursuits, or post-mortem examinations, all furnish abundant source of infection for the propagation of this disease. In support of this, he cites what occurred some years since at the Vienna Lying-in Hospital, where it was the

habit to intrust one portion of the patients to the care of male students, whilst the other portion was attended by females. It soon became manifest that the mortality amongst the former class was far greater than in the latter, which, on inquiry, was found to have resulted from the fact of the male students being engaged daily in anatomical pursuits. They were then superseded by females, after which the discrepancy completely disappeared, and an order was issued, that, for the future, no student so engaged would be permitted to attend. He is so strongly impressed with the truth of this observation, that he invariably refuses either to make or assist at necroscopic examinations, and considers it highly reprehensible for any person so engaged, or in the attendance of typhus fever, erysipelas, or puerperal fever in hospitals, or who is resident therein at epidemic periods, to practise midwifery. Though the disease be epidemic in its origin, we often have sufficient precursory indications to lead us to fear the approach of an epidemic, and thus enable us to make use of such prophylactic measures as are within our power. These indications are, slow recoveries, without being able satisfactorily to account for them, deficiency of pains, irregular and spasmodic contractions, rigidity of the os, and other causes of prolonged labor, which, of itself, is one great source of the disease. This is supported by the evidence of Drs. Collins, Joseph Clarke, and Van Franke. 4. *Distress of mind from seduction and such like; anxiety, and excitement caused by visitors.* The connexion between mind and body is nowhere better exemplified than in the puerperal state; and it is a true remark that seduced females are particularly obnoxious to puerperal fever, which is with them very fatal. Newspaper reports of deaths from this disease, and many stories continually rung in the ears of the poor victim by the anxious but meddling friends, all have their mischievous tendency, and should, as far as possible, be prohibited; also, the too early admission of visitors into the patient's room, while still suffering from that irritation of the system occasioned by the violent efforts of labor. 5. *Errors in diet, and use of stimulants.* From various authorities consulted, as well as from actual experience, it is laid down as a rule that animal food is improper, and ought not to be allowed till after the secretion of milk has been well established, the attendant fever subsided, and the pulse has come down to its natural standard. Stimulants employed during labor induce hæmorrhage; and if taken too soon after its completion, induce puerperal inflammation. 6. *Hæmorrhage; introduction of the hand for version, or retained placenta; portion of secundines retained, or clots putrefied in the uterus.* 7. *Drawing the breast by artificial means too soon after delivery, or repelling the milk too suddenly by cold applications of vinegar, etc.* 8. *Exposure to cold, too early rising, or going out too soon after delivery.* We cannot too carefully guard our patient from exposure to cold, either from too light clothing, or the too abrupt removal of the binder, or from going out for a walk or drive, for at least a month after delivery. This must be apparent to all when we bear in mind that the womb, which before impregnation measured two and a half inches, and weighed about an ounce and a half, and which had at the termination of utero-gestation increased to twelve inches, and attained to the weight of several pounds, could not return to its pristine condition in a shorter period of time. With a view to avoid inflammation, as well as the foundation for future mischief, it is deemed paramount to keep the patient in a recumbent posture so long as we can feel the uterus enlarged above the pubes. 9. *Puerperal convulsions, actual or threatened.* Collins and Denman both allude to this fact, and Dr. Johns has elsewhere expressed the same opinion, which his subsequent experience has proved to be correct. 10. *Uterine disease.* 11. *Inhalation of Chloroform during labor.* He entertains no doubt that this strongly predisposes to puerperal inflammation, producing the disease either directly by poisoning the blood or otherwise, or indirectly by inducing hæmorrhage, or chest affections, already stated to be promoters of the malady. He has already written a paper on this sub-

ject, published in a previous number of the Journal. If we are not successful in avoiding or removing these causes, our next duty is to employ, as a prophylactic, such remedies as have been most successful in treating the disease, regulating the administration by the number and force of existing influences. For this purpose mercury is recommended to be employed in a mild way, commencing immediately after, and in some instances before delivery, and continuing its use until the milk has been secreted. Where the patient has suffered much in the removal of the after-birth, Dr. Collins recommends the use of calomel and ipecacuanha, to be commenced immediately after delivery, so as to be beforehand with inflammatory attack. It is highly important that the treatment should be commenced early, as a few hours' delay may often be the cause of a fatal result; hence the necessity of watching narrowly the condition of the patient, so as to be able to detect the slightest inflammatory symptom, and of seeing the patient instantly if sent for under circumstances that lead us to suspect the slightest danger. The treatment should not only be prompt but thorough. The abstraction of blood is generally requisite, though venesection, owing to the asthenic nature of the disease, is not so often resorted to as formerly. The repeated application of leeches answers better, and does not weaken the patient. Mercury is regarded as our sheet-anchor, and should be given in very bad cases to an extent nothing short of salivation. Owing to the diarrhoea that sometimes accompanies the administration of mercury, Dr. Johns is in the habit of giving it in combination with opium and bismuth, giving the mercury in small doses by the mouth, together with its endermic use. When used in this manner, he has never seen the bowel complaint increased, but, on the contrary, arrested. He knows of no well authenticated case terminating fatally where there were distinct evidences of the system having been affected by mercury. As adjuncts he employs stupes, turpentine epithems, turpentine internally if much flatulence exists, linseed-meal poultices, hot dry bran, and blisters, in some instances dressed with mercurial ointment. Where mercury is inadmissible, or when it has been inefficiently used or neglected, secondary affections are likely to supervene, when quinine with opium, bark with ammonia, chlorate of potash, sesquichloride of iron, broths, and brandy, are indicated.

**SYPHILIS IN THE ENGLISH ARMY.**—From the Army Statistical Reports it appears that the annual admissions into hospital from venereal diseases amount to 206 in every 1000 Cavalry soldiers, 250 in the same number of Foot Guards, and 277 in every 1000 Infantry of the Line. The average proportion for the Army at home is 267 per 1000, or more than one-fourth of the whole number. It is calculated that on the lowest average each man is fifteen days under treatment. Thus 688 men out of the home force are always in hospital from this cause alone—a number equal, or nearly so, to the strength of a regiment on the home establishment; and the money loss to the State is calculated at nearly £14,500 a year. The further loss from subsequent disease and invaliding, and the injury to the State from the life-long deterioration of the individual and from the hereditary curses of transformed syphilis and scrofula conveyed to future generations, are beyond calculation. In India the case appears worse than in England. The proportion of venereal cases constantly in hospital is usually from 20 to 25 per cent. of the total sick. At some of the larger stations it much exceeds this. At Bangalore and Roorkee the proportion at the time the report was made was 50 per cent.; at Dinapore it was as high as 53 per cent.; and Dr. Maclean testified that a few years ago in the 1st Madras Fusiliers the amount of syphilis was equivalent to the withdrawal from duty of one-fourth of a company daily.—*Lancet*.



## Reports of Societies.

### NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, April 22, 1863.

DR. D. S. CONANT, PRESIDENT, IN THE CHAIR.

#### OVARIOTOMY.

DR. FINNELL exhibited a mass of ovarian disease removed by ovariectomy from a patient twenty-six years of age. She first came under the notice of Dr. Finnell a year before. The abdominal swelling at that time was very great, and the only relief that could be obtained was by tapping. Four or five gallons were drawn off at the first operation, and about three gallons at the second. At her very urgent request the operation for ovariectomy was performed, notwithstanding the fact that she was very much run down.

The incision was made a little to the right of the median line, four or five inches in length, and a little below the umbilicus. There were some slight attachments to the omentum, which, however, were very easily separated. The pedicle was about one inch in thickness, and about three inches in length; it was drawn out as usual, and secured with a silver wire suture. The tumor weighed seven pounds. On the morning of the second day after the operation the patient commenced vomiting, and experienced considerable pain and tenderness of the abdomen. On the fifth day peritonitis was fully developed, and she died. There was found at the time of the operation, floating around in the abdominal cavity, a mass of false membrane, which evidently was the result of previous inflammations.

DR. CONANT thought it good practice, where the pedicle was short, to bring out the ligature through the vagina by means of a curved trocar. The opening thus made would be large enough to allow the escape of fluids, but too small to admit air.

DR. PRINCE was of the opinion that the ecraseur would be serviceable in cases where the pedicle was short.

DR. FINNELL remarked, that he would be afraid to return the pedicle, inasmuch as, when reaction came on, the danger of hæmorrhage would be too great.

DR. SANDS had read of a case reported in one of the English journals where a great deal of violence had been resorted to in order to break up old adhesions, and yet the patient made a good recovery. This was simply owing to the fact that the peritoneum, in consequence of numerous previous attacks of inflammation, had become so altered as not to be susceptible of extensive inflammation. The same analogy holds good in long standing disease of the pleura and of the knee-joint.

#### OPERATION OF TREPHINING.

DR. CONANT presented a disc of bone removed by trephining from the skull of a boy, with the following history. The patient had been tending the launch of a gunboat, when a hawser, attached to the capstan, broke, throwing him violently against a spar. He struck head first, and remained insensible for three-quarters of an hour, but at the end of that time he became rational, and remained so for three days. On the right side of his head, near the parietal bone, was noticed a soft tumor, but no depression could be made out. On the fourth day there were manifest some typhoid symptoms, and a brisk cathartic was accordingly given. On the sixth day there was noticed a soft tumor on the opposite side of the head, with edges so marked that the physician who saw the case was inclined to think that there was depression of bone. On the morning of the seventh day there was convulsion of the right side, followed by paralysis of the right arm and right side of the neck. There was also a slight convulsion of the right leg. The pupils were very much dilated. On the morning of the

twenty-seventh day after the injury the patient had another convulsion, and Dr. Conant was sent for. The patient was etherized, and the head very carefully examined. On the right side of the head no depression was discovered, but on the left side there seemed to be a slight yielding on pressure. It was determined to cut down in this situation. On baring the bone a fissure was discovered, with blood oozing from it, when it was concluded that a clot which had been very slowly forming existed underneath. A button of bone was accordingly removed, disclosing a blood clot, which, on being removed, it was found that the patient could move his arm perfectly well, and his intellect began to get clear. On the twelfth day he was able to be up and dressed. The pupils are still a little dilated.

#### REMOVAL OF ENCEPHALOID DISEASE OF THROAT.

DR. CONANT also referred to a case of operation for the removal of encephaloid disease of the throat. The patient was sixty-seven years of age, and the disease had only made its appearance five months previous, but in that time its rapidity of growth was such as to fill up almost the entire faucial orifice. Dr. Conant at first took off about two-thirds of the mass by means of the ecraseur, and at the end of ten days removed the remaining portion. There was a considerable amount of hæmorrhage, which, however, was checked by the application of the persulphate of iron. The patient made a good recovery. On examination of the mass after removal, the starting point of the disease was found in the mucous membrane immediately surrounding the tonsil.

The Society then adjourned.

## American Medical Times.

SATURDAY, OCTOBER 17, 1863.

### PRESENT REMUNERATION FOR PROFESSIONAL SERVICES.

THE subject of remuneration for professional services has always interested the mind of the medical public, and notwithstanding so many discussions have been held upon the question it has hardly yet become threadbare; in fact, it is not likely ever to lose its claim for consideration as long as medicine is practised for a livelihood. We do not, however, wish to discuss the question in all its bearings, but would merely present some thoughts having reference to the present times. Speculators in gold, job stock brokers, contractors, and the like, have so crippled the confidence in the money market that as a consequence provisions, and all the other necessities of life, have risen to surprisingly high rates, so that the actual cost of living is now nearly double what it was nearly two years ago. Every component part of the community feels the burden of this great advance on the price of goods, and the redress is sought in a corresponding demand for an increase in wages. We already have seen that among the lower classes, where the burden is necessarily soonest felt, "strikes" have been so common that almost every artisan can now lay claim to his just dues. It is but proper that every laborer and business man should seek to protect himself by an increase upon his rates; and the physician, viewed in the light of one who is expected to earn his living by the practice of his profession, should not be behindhand in asserting his claims for justice. We maintain that some advance in the present rate of charges should be agreed upon by the profession as a body, in order that they

may protect themselves against such ruinously high prices. To those gentlemen who have large incomes this may not be so seriously felt; but to the young practitioner, whose yearly receipts heretofore have been barely sufficient to maintain him in the style in which he should live, it becomes an absolute necessity, else he renders himself liable to get into debt, or may perchance be forced to deny himself some of the necessities of life. The profession should look to its interests, and it can only do so in the matter by acting as a unit.

In adjusting what we consider our claims upon the community, we must not render ourselves liable to run into another extreme, by demanding anything more than what is our due. The evils of exorbitant charging are not only great, so far as they will prejudice the community against us, but as a body we ourselves would be seriously damaged, inasmuch as it would tempt us to lose sight of our sacred mission in the love for gain, thus degrading our profession to the level of the merest trade. The practitioner of medicine establishes for himself a certain *quid pro quo* for the treatment of a disease; but he is not prepared to admit that his services are only worth just so much, that his advice to the poor sufferer can be paid for in mere dollars and cents, but as a domestic economist he is entitled to a certain income to supply his wants, and by virtue of that alone does he feel, as a physician, that he is entitled to a fee.

With this view of the question, there is no need for any false delicacy in the matter, and we should not be at all backward in establishing such pecuniary relations to the public as we are really entitled to. As men of science and philanthropists, we look after the interests of the community in a manner which lays them under infinite obligations to us, and the least that they can do is to afford us a decent means of livelihood.

We think that the subject is one which should be agitated in professional circles, in order that some concerted action may be the result, and some uniform tariff of prices be at once determined upon.

### THE WEEK.

At the recent International Congress held at Vienna, the health of armies and of recruits was a subject of discussion. The following allusion to the action taken, is from a newspaper correspondent:—

The fourth section reports on the health of the army, particularly of the recruits. Extreme opinions prevail about the sanitary condition of the army. The elaborate reports of Drissangel and Prof. Virchow have been an excellent basis for the labors of this section. The statistics of the sanitary condition of recruits is a most difficult subject. Their healthy condition represents a valuable capital. The section has come to the following resolutions:—

1. The Congress sees an excellent opportunity to obtain through recruits exact information of the sanitary condition of a large portion of the male population.
2. It is the wish of the section that all recruits be examined and their sanitary condition be investigated, not excepting those who are deficient in stature nor those altogether unfit.
3. Principal points to be inquired into.
  - (a) Place of nativity and occupation.
  - (b) Stature, weight, circumference, measure of breast. (The measurement to be taken in a quite uniform manner.)
  - (c) Statement of the morbid condition which caused unfitness for service. Exact tables, such as given in the

programme of the preparatory committee (too voluminous to be reproduced here), should be prepared. The Congress recommends urgently to the governments the acceptance of these resolutions. The programme contains most learned essays by Professor Virchow on this subject, which are recommended by the fourth section for the information and consideration of governments.

We have several times alluded to the hospital cars recently constructed, at the suggestion of the Sanitary Commission. To Dr. ELISHA HARRIS is due the credit of devising them, and we are happy to know that they serve an admirable purpose. They are already to be placed on several of the most important railroads. A contemporary thus describes what it designates as the Harris hospital car:—

"The length is 41 1-2 feet, and the width 8 feet 7 inches. The car will accommodate thirty-six patients, with the requisite number of attendants, usually three or four—surgeon, steward, and two 'contrabands,' the patients being divided off as follows:—Twenty-four in beds, four on sofa, and six—the more convalescent—in easy chairs. Some idea may be formed of the thoughtfulness of Dr. Elisha Harris, of New York, the originator of these cars, when we state that in addition to all the mechanical comforts supplied in the build of the car, the following partial list of articles of the first quality is also provided:—24 stretchers, 31 pillows, 24 counterpanes, 24 pairs of socks, 30 pairs of slippers, 50 towels, 10 pair surgeon-splints, 15 gowns, 1 roll of lint, 25 handkerchiefs, cooking apparatus, case of medicine, beef-stock, coffee, milk, cups, pitchers, knives, tin plates, bandages, rubber air pillows, rubber pails and blankets, utensils for cleansing, canteens, fans, and jellies—making in all a complete and portable hospital. The facilities for ventilating the car cannot be surpassed for simplicity and efficacy. A free and pure current of air is constantly supplied, smoke and dust being ingeniously avoided. Every department, in fact, is so complete, that a simple description cannot do justice to the ingenuity displayed in each."

WHILE the citizens of New York have received with private and civic ovations the officers of the Russian fleet now in our harbor, the medical profession has extended to the surgeons of the fleet a cordial greeting. In another column we give the address of welcome of Dr. Buck, on the part of the Academy, and the reply of a member of the Russian staff. Four members of the staff visited the Academy of Medicine at its last meeting, and were warmly welcomed by the President, Dr. Anderson, after which the meeting adjourned to that gentleman's house, where a social reunion was held.

## Correspondence.

### WOUNDS OF THE CAVITIES, VISCERA, AND BRAIN.

[Third letter of Dr. A. H. HOFF, Surg. U.S.V., to PROF. MARCH, of Brooklyn, N. Y.]

DEAR SIR:—I have expressed to you very freely my ideas in reference to resections, support of fractures, etc., etc., and I shall devote this letter to wounds of the cavities, viscera, and brain. Wounds of the chest are not as common as one would suppose. It is a singular fact, that the vast majority of wounds are of the extremities. However, it has been my fortune to have had placed in my charge quite a number wounded in the chest, and most of these several days after receiving the injury. The history of these cases, so far, does not endorse the determined

necessity of the peculiar treatment presented heretofore by many of our military surgeons. I find here, as well as everywhere, that we all are inclined to ride our hobby, some insisting upon one thing, and some upon another. But what has surprised me most, is the fact that in the midst of a multitude of opinions our patients recover with but little of our interference. I have not seen, so far, a single case of internal hæmorrhage from a gunshot wound penetrating any of the cavities, supposing the reason to be that death invariably ensues within a short time after the wound is received. Those cases that have come under my notice, have, so far, simply required care as to *position*, and a moderate degree of treatment, having a tendency to compose the nervous system, and hold in check inflammatory action.

Hearing the air rushing out through an aperture in a man's back, and through another in front on the opposite side, at every expiration, would incline one to make a very unfavorable prognosis; but to have the same man shake you by the hand six months after, with his musket slung across his shoulder, well and hearty, would lead you to ask how can this be, and what has been done to accomplish it. On inquiry, you find that first one hole closed up; then, after a little, it produced no inconvenience to stop up the other. The expectoration, which was somewhat troublesome and streaked with blood, continued for two or three days; then more oppression was felt, some twinging pains, respiration after reaching a certain point was painful, but the patient could get along without breathing so long; it did not seem necessary to support life that a full inspiration must be taken, and it could not be done, because it hurt; felt better in a semi-recumbent position, but found lying on the side, "scoop fashion," did just as well, and enabled him to sleep and let all the matter run out; had a first-rate appetite, but had to be careful not to fill his belly too full, as he could not breathe so well; washing him off with cold water now and then, first along with a patch spread on his breast, kept cool, felt first-rate, made him breathe easier, and then, keeping perfectly quiet, not talking any, and having folks keep away from him, saved his life. "Didn't take much doctor stuff; a little stuff now and then to make him sleep, and once, he believed, a little physic to open him." I have outlined this conversation for the purpose of pleasantly demonstrating what made a man so severely wounded feel comfortable, gleaned from it the following indications:—1st, Keep the orifice open. 2d, Be particular as to position, consulting the patient's feelings carefully, as he is the best judge. 3d, Keep the chest cool. 4th, Give free exit to all discharge. 5th, Quiet all irritation by keeping the patient perfectly quiet, giving anodynes, but with great care; be cautious about diet, more especially quantity, and meet with decision any untoward complication your watchfulness may discover. Don't think, because the wound is dreadful, the remedies must be dreadful with which you attack it. On looking over what I have written, I feel inclined to think you will laugh at me, but you know my hobby is to add the sufferer's opinion to my own thinking, thereby better to get at the indications; for he feels the pain, and I judge of the cause; he knows when it is relieved, I find out the reason. Nature cures, I do the best to assist. Allow me here to make this remark; on the battle-field it would be a troublesome matter to carry out the immediate treatment recommended for gunshot wounds of the chest accompanied with severe hæmorrhage. I hope it will never be my fortune to receive one, as death would be my certain doom.—I find I have consumed all my time. The army is in front of Vicksburg; what is to be done, I have not been informed, but I am happy to say that the medical department out here is in first-rate condition; everything in readiness, let come what will.

U.S. HOSPITAL STEAMER D. A. JANUARY,  
YOUNG'S POINT, LA., March 29, 1868.

## MINIE RIFLE BALL ENTERING THE BELLY AND ESCAPING BY THE RECTUM.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—In one of the late numbers of your Journal a correspondent has reported two cases of the escape of balls by the rectum. I wish to report a third.

On the twenty-ninth of March, 1863, I saw, in Hospital No. 8, at Louisville, Ky., Corporal John I. English, of the 5th Indiana Battery, who was wounded at Murfreesboro, on the thirty-first of December, 1862, by a conical ball, which entered just below and in front of the anterior superior spinous process of the ilium, on the left side. The ball escaped from the rectum on the fortieth day.

When I saw Corporal English he was in bed: the wound in front had closed, but matter continued to discharge by the rectum. His bowels were regular; but he was obliged to urinate often, and urination was attended with some pain. His health was steadily improving, and there was but little reason to doubt his final and complete recovery. The ball, which he showed me, was a little battered.

Very truly yours,

FRANK H. HAMILTON.

NEW YORK.

## Army Medical Intelligence.

(CIRCULAR NO. 19.)

SURGEON-GENERAL'S OFFICE,  
WASHINGTON, D.C., Sept. 2, 1868.

THE assignment of Officers in command of Companies of the Invalid Corps to General Hospitals, is for the purpose of increasing the efficiency of the Hospitals, and is a part of the hospital organization, under the senior Medical Officer.

They are, while on that duty, a portion of the Commissioned Staff of the Hospital, and are entitled to the same allowance of quarters, fuel, etc., within the Hospital, when at all practicable, as Medical Officers of similar rank.

It is confidently expected that much benefit will be derived from the provisions of General Orders No. 212, current series, and that Surgeons in charge of General Hospitals will endeavor to render the position of these Officers such that there will be entire harmony and concord of action in the performance of their respective duties.

By order:

C. H. CRANE,  
Surg. U.S.A.

(CIRCULAR NO. 20.)

SURGEON-GENERAL'S OFFICE,  
WASHINGTON CITY, Sept. 29, 1868.

Medical Directors, in cities where there are several General Hospitals, will designate one in each city at which enlisted men, requiring Trusses, will report themselves to the Surgeon in charge, to be measured for and fitted with the proper instruments. Medical Purveyors will cause to be made, and furnish, Trusses corresponding in measure and description with the requisition to be made in each case, in lieu of the usual issue, which will be discontinued to all General Hospitals where this arrangement can be carried into effect.

By order:

C. H. CRANE,  
Surg. U.S.A.

### ORDERS, CHANGES, &c.

Surgeon William S. King, U.S.A., has been relieved from duty as Medical Director, Department of the Susquehanna, and ordered to proceed to Lexington, Ky., and report in person to Major-General Burnside, commanding Department of the Ohio, for duty as Medical Director of that Department.

Surgeon Gideon S. Palmer, U.S.V., on duty at Chambersburg, Pa., has been ordered to report to Major-General Meade, for duty as Medical Director, 11th Army Corps.

Surgeon C. F. H. Campbell, U.S.V., on being relieved as Medical Director, 11th Army Corps, will report to the Medical Director, Department of the Susquehanna, for duty at Chambersburg, Pa.

In accordance with the findings of a military commission, convened by virtue of Special Orders No. 884, Headquarters District of Memphis, and by direction of the President, Assistant-Surgeon W. S. Bell, 43d Ohio Vols., has been dismissed the service of the United States for absence without leave.

The leave of absence heretofore granted Surgeon E. K. Smith, U.S.V., from the Headquarters Department of the Gulf, has been extended twenty days.

Edward Russell, late Surgeon 4th Louisiana Vols., dismissed as Assistant-Surgeon 36th Massachusetts Vols., by Special Orders No. 233, current series, has been restored to his regiment with pay from the date of rejoining it for duty, on condition that he shall refund to the Pay Department an over-payment of \$225.16, and provided the vacancy has not been filled, evidence of which must be obtained from the Governor or appointing authority.

The following named Medical Officers have been assigned to duty with the Army of the Potomac, to report in person without delay to Surgeon Jonathan Letterman, U.S.A., Medical Director of that Army.

Assistant-Surgeon E. J. Marsh, U.S.A., now on duty in Washington, D. C.

Assistant-Surgeon C. K. Winne, U.S.A., now on duty at Pittsburgh, Pa., Department of the Monongahela.

Assistant-Surgeon John Bell, U.S.A., now on sick leave, at the expiration of his leave.

Assistant-Surgeon Van Buren Hubbard, U.S.A., now in charge of U.S. General Hospital, Filbert street, Philadelphia, Pa.

Assistant-Surgeon Edward Brooks, U.S.A., now on duty in Baltimore, Md.

So much of Special Orders No. 408, September 17, 1868, from this Office, as directed Assistant-Surgeon W. C. Daniels, U.S.V., to report in person without delay to Major-General Grant, U.S.V., commanding Department of the Tennessee, is hereby revoked, and Surgeon Daniels will report at once to Major-General Burnside, U.S.V., commanding Department of the Ohio, for duty.

So much of Special Orders No. 294, July 8, 1868, as directed Surgeon Charles McCormick, U.S.A., to report in person to Brigadier-General Kelly, U.S.V., commanding Department of Western Virginia, for duty as Medical Director, has been revoked, and Surgeon McCormick will proceed without delay to Wilmington, Del., and relieve Surgeon John Campbell, U.S.A., as a member of the Retiring Board, convened by Special Orders No. 807, July 11, 1868, now in session at that place.

Surgeon Campbell on being relieved to proceed to the Headquarters Department of the Susquehanna, and report to Major-General Couch commanding, for duty as Medical Director.

By direction of the President, and upon the recommendation of the Board of Examiners, convened by Special Orders No. 294, July 8, 1868, Surgeon W. H. White, U.S.V., has been honorably discharged the service of the United States on account of physical disability, to date September 26, 1868.

Leave of absence has been granted to the following Medical Officers:—

Acting Assistant-Surgeon G. M. Paulin, U.S.A., for twelve days.

Assistant-Surgeon R. K. Westling, 1st District of Columbia Cavalry, for fifteen days.

Surgeon J. S. Hildreth, U.S.V., Desmarres Hospital, Washington, D. C., for fifteen days.

Surgeon James Bryan, U.S.V., is on sick leave at Philadelphia, Pa.

Surgeon John A. Lidel, U.S.V., has been granted twenty days' leave, on account of sickness.

Assistant-Surgeon W. C. Spencer, U.S.A., has been relieved as Medical Purveyor, Department of the Gulf, at New Orleans, La.

The following assignment of Medical Inspectors is hereby made:—  
Lieutenant-Colonel E. F. Vollum, U.S.A., now stationed in Washington, D. C., to report in person to Major-General Rosecrans, commanding Department of the Cumberland, as Medical Inspector of that Department, and by letter to Assistant Surgeon-General Wood at St. Louis Station, Nashville.

Lieutenant-Colonel Peter Pineo, U.S.A., now at Boston, Mass., awaiting orders, to report for duty as Medical Inspector to Major-General Gilmore, commanding Department of the South. Station, Hilton Head, S. C.

Lieutenant-Colonel Augustus C. Hamlin, U.S.A., now on duty in the Department of the South, to repair to this city, and report in person to the Medical Inspector-General, U.S.A., as Medical Inspector of the Department of Washington.

Lieutenant-Colonel John Wilson, U.S.A., upon completion of special duty in Medical Inspector-General's Office, to report to Major-General Meade, commanding Army of the Potomac, as Medical Inspector of that Army. Station, Washington, D. C.

Lieutenant-Colonel N. S. Townsend, U.S.A., now on leave of absence, to report at the expiration of his leave to Assistant Surgeon-General B. C. Wood, at St. Louis, for assignment.

Lieutenant-Colonel George W. Stipp, U.S.A., now on leave of absence, to report at the expiration of his leave to Major-General Banks commanding Department of the Gulf, for duty as Medical Inspector of that Department. Station, New Orleans.

Lieutenant-Colonel John L. Le Conte, U.S.V., now on duty as Medical Inspector in the Department of the Missouri, to report to Major-General Couch, commanding Department of the Susquehanna, for duty as Medical Inspector of that Department. Station, Philadelphia, Pa.

The leave of absence granted Surgeon W. S. Forbes, U.S.V., in Special Orders 217, Headquarters Department of the Gulf, has been extended twenty days.

STATISTICS OF THE CAUSES OF EXEMPTION.—Provost Marshal-General Fry has issued a circular directing that immediately upon the completion of the draft in any district, the Surgeon of the Board of Enrollment therein will compile, and forward to the Provost Marshal-General's Office, the statistics of the causes of exemption, on account of physical disability, from such draft in his district. The report will show the whole number of men drafted in the district, with an alphabetical list of the several kinds of disability, and the number rejected for each, and will be accompanied by a detailed statement of such other facts as may be of scientific importance to the medical profession of the army.

Dr. Roger W. Pease (Surgeon New York Vols.), has been appointed Assistant-Surgeon U.S.V., to date October 2, 1868.

By direction of the President, Assistant-Surgeon L. H. Pease, 10th Connecticut Vols., has been dismissed the service of the United States. Lieutenant-Colonel J. M. Cuyler, Medical Inspector U.S.A., has been directed to make a close inspection of the command in and near Norfolk and Portsmouth, Va., and the United States General Hospital at Old Point Comfort.

Surgeon E. B. Bontecou, U.S.V., has been relieved from duty in the South, and will report in person without delay to the Medical Director, Department of Washington, for duty in charge of the Harewood General Hospital.

Surgeon A. T. Augusta, 7th U.S. colored troops, is hereby relieved from duty at the Contraband camp near this city, and will report immediately to Surgeon Josiah Simpson, U.S.A., Medical Director, Baltimore, Md., for duty with his regiment.

A Board of Medical Officers, to consist of Surgeons J. J. B. Wright and E. H. Abadie, U.S.A., and Assistant-Surgeon J. H. Bill, U.S.A., will convene in New York city on the fifteenth day of October, 1868, or as soon thereafter as practicable, for the examination of candidates for the appointment of Assistant-Surgeons in the U.S.A., and of any Assistant-Surgeons for promotion who may be brought before it.

Assistant-Surgeon Wallace D. Martin, 62d Pennsylvania Vols. has been discharged the service of the United States on account of physical disability, and for absence without proper authority, as reported on the rolls of the regiment.

Permission to delay reporting to the Medical Director, Department of the Gulf (as directed by Special Orders 408, September 11, 1868, from the War Department), for fifteen days, is hereby granted Surgeon Thomas B. Reed, U.S.V.

Upon the report of a Board, organized by virtue of Special Field Orders No. 206, July 27, 1868, Headquarters Department of the Cumberland, Assistant-Surgeon Mordecai Brooks, 83d Indiana Vols., has been, by direction of the President, discharged the service of the United States for incompetency.

The leave of absence granted Surgeon Lincoln R. Stone, 54th Massachusetts Vols., in Special Orders No. 541, September 23, 1868, from Headquarters Department of the South, to enable him to appear before the Army Medical Board, now in session at Washington, for the examination of candidates for appointment of Surgeons and Assistant-Surgeons of Volunteers, has been extended ten days.

So much of Special Orders No. 438, September 27, 1868, from the Adjutant-General's Office, as directed Surgeon G. S. Palmer, U.S.V., to report to the Medical Director, Army of the Potomac, for duty as Medical Director, 11th Army Corps, is hereby revoked, and Surgeon Palmer will report for temporary duty at Carlisle, Pa., to relieve Surgeon J. J. B. Wright, U.S.A. On the return of Surgeon Wright to his duty at Carlisle, Pa., Surgeon Palmer will report by letter to the Surgeon-General for duty.

Permission to delay ten days en route to his station is granted Surgeon P. H. Humphreys, 58th New York Vols.

The leave of absence, heretofore granted Surgeon R. K. Smith, U.S. Vols., is extended ten days.

Leave of absence has been granted to:—

Surgeon J. M. Allen, 54th Pa. Vols., for fifteen days.

Assistant-Surgeon J. H. Williams, 123d Ohio Vols., for twenty days.

Surgeon Chas. O'Leary, U.S.V., for twenty days.

The following named commissioned officers have been detached from their respective commands, and ordered to report in person to Brigadier-General Wild, U.S.V., at Morris Island, S. C.

Assistant-Surgeon H. H. Mitchell, 39th Massachusetts Vols.

Assistant-Surgeon Arthur H. Cowdry, 7th Massachusetts Vols.

By direction of the President, Surgeon James C. Fisher, U.S.V., is hereby dismissed the service of the United States, for persistent failure in making to the Surgeon-General's Office, monthly reports of station and duties, as required by circular from that office.

Leave of absence has been granted to Assistant-Surgeon H. M. Sprague, U.S.A., for twenty days.

Surgeon E. J. Bailey, U.S.A., has been relieved from duty as a member of the Board to retire disabled officers, convened by Special Orders No. 807, July 11, 1868, and now in session at Wilmington, Del., and Surgeon Ebenezer Swift, U.S.A., is detailed as a member of said Board, in his place.

Surgeon W. C. Otterson, U.S.V., has been ordered to report to the Assistant Surgeon-General, at St. Louis, Mo., for hospital duty, as soon as his health will permit.

Surgeon Frederick Seymour, U.S.V., has been ordered to repair to Nashville, Tenn., and settle his accounts and property returns.

Assistant Surgeons Gerhard Sall, H. L. W. Burritt, and Edwin Freeman, U.S.V., have been ordered to report to Surgeon J. E. McDonald, U.S.V., Medical Director 9th Army Corps, Department of the Ohio.

Surgeon F. A. Keifer, U.S.V., has relieved Assistant-Surgeon W. C. Spencer, U.S.A., as Medical Director, Department of the Gulf, at New Orleans, La.

The General Hospitals, Stanley and Foster, at Newbern, N. C., have been consolidated under the charge of Surgeon J. J. De Lamater, U.S.V.

A General Hospital is being established at Madison, Wis., for the accommodation of Northwestern Volunteers.

Surgeon B. Beust, U.S.V., is on twenty days' leave at Weehawken, N. J.

Surgeon Snelling, U.S.V., has been assigned to the charge of the Chesapeake hospital, Fort Monroe, Va., relieving Surgeon A. E. Stocker, U.S.V., who will report to the Medical Director, Fort Monroe, for duty.

Surgeon C. Cowgill, U.S.V., in addition to his duties as Superintendent of General Hospitals for the District of North Carolina, will assume charge of the Contraband Department of the same District, and also perform the duty of Surgeon-in-Chief to the command of Brigadier-General Palmer.

Surgeon S. S. Schultz, U.S.V., has been transferred from Covington, Ky., to Madison, Ind.

Assistant-Surgeon Francis Greene, U.S.V., is in New York on sick leave from Department of the South.

Assistant-Surgeon A. B. Chapin, U.S.V., is sick in quarters at Annapolis Junction, Md.

The following officers are hereby honorably discharged the service of the United States on account of physical disability, with condition that they shall receive no final payments until they shall have satisfied the Pay Department that they are not indebted to the Government.

Assistant-Surgeon E. F. Spaulding, 7th Wisconsin Vols.  
 Surgeon Levi Butler, 8d Minnesota Vols.

### CIVILITIES TO THE MEDICAL STAFF OF THE IMPERIAL RUSSIAN ATLANTIC SQUADRON.

A DEPUTATION of the New York Academy of Medicine visited the flag-ship of the Russian squadron in our harbor, on Monday the 5th inst., and was most cordially received by the whole medical staff, assembled by previous appointment. After mutual greetings the company proceeded to the Admiral's cabin, where refreshments were provided. The Chairman of the deputation made a brief address in French to the Staff, welcoming them to our city in the name of the Academy, inviting them to be present at its regular meetings during their stay among us, and tendering such personal services as might render their visit agreeable and useful. A response was made in the same language by one of the Staff, heartily reciprocating the fraternal sentiments expressed by the deputation. An hour was then most agreeably spent in conversation and the interchange of mutual good wishes; another member of the Staff also addressed the deputation in English, reiterating the fraternal feelings which all present shared in. After being shown through the ship, and admiring the completeness of her equipment, and the admirable order everywhere conspicuous, the deputation took their leave, highly gratified with their visit.

The deputation, consisting of Drs. Buck, Post, and G. A. Peters, was accompanied by the following members of the Academy: Drs. Delafield, Bulkley, Detmold, Hubbard, Geo. T. Elliot, Joel Foster, Underhill, Noyes, and Bell of Brooklyn.

DR. BUCK made the following address:—

GENTLEMEN AND HONORED COLLEAGUES OF THE MEDICAL CORPS OF THE IMPERIAL RUSSIAN ATLANTIC SQUADRON:—As Delegates of the New York Academy of Medicine we come to welcome you to our city, and express the satisfaction afforded us by this first visit of a Russian squadron to our shores. We avail ourselves of the opportunity to extend to you a fraternal hand. Though separated by the Ocean we are members of the same honorable profession, everywhere laboring in the common cause of humanity and science, and animated by the same motives and aspirations. It affords us pleasure to-day to give expression to that international sympathy which subsists between our respective governments.

GENTLEMEN—The Academy of Medicine has specially charged us to invite you and your colleagues who are expected yet to arrive in our harbor, to be present at its regular meetings during your stay among us. We shall also be happy personally to render you any service that can contribute to make your visit agreeable and useful.

#### REPLY OF ONE OF THE MEDICAL STAFF.

I am happy, gentlemen, conjointly with my comrades, to greet you on this occasion, and grasp your hands, stretched out with so much friendliness and cordiality towards us, you brethren in science.

What confers an incontestable advantage on our profession, compared with others, is doubtless the absolute cosmopolitanism of the Medical art. For, whilst political combinations and other reasons render international relations sometimes friendly, sometimes hostile; whilst misunderstandings provoke bloody conflicts even among fraternal nations, of which we see unhappily sad examples at the present time in your country and our own; I will say further, whilst the fathers of churches make distinctions between their own flocks, Medicine alone never loses its

humane and philanthropic character; for there does not exist a country, however little civilized, where medical aid, even to a sworn enemy, is not the first and most sacred of duties.

We feel assured, gentlemen, that it is as much in the name of international sympathy as of science that you have opened your arms to us, your professional brethren; and we flatter ourselves that with the same kindness you will allow us to see your clinics, your hospitals, and other benevolent institutions, of which your imperial city possesses so great a number.

Thus deriving from your experience and your civilization treasures of science, we shall be able, with the liveliest gratitude, to impart to our colleagues in Russia the fruits of our observation among you, and teach them to appreciate, as we do, your kindness and national genius.

## Medical News.

NEW YORK COUNTY MEDICAL SOCIETY.—At the Anniversary Meeting of the Medical Society of the County of New York, held Oct. 5, 1863, the following officers were elected for the ensuing year:—Alf. Underhill, M.D., President; Isaac E. Taylor, M.D., Vice President; Guido Furman, M.D., Recording Secretary; Henry S. Downs, M.D., Corresponding Secretary; S. T. Hubbard, M.D., Treasurer. H. D. Bulkley, M.D., E. R. Peaslee, M.D., Joel Foster, M.D., Jos. K. Merritt, M.D., and D. S. Conant, M.D., Censors; Drs. Jas. Kennedy and Jos. K. Merritt, Delegates to the State Med. Society for three years. The meeting was well attended, it being the largest one since Oct. 12, 1846, which was an adjourned anniversary meeting.

From the Secretary's report we learn that the "comitia minora" had held eleven, and the society nine meetings during the past year, and that twenty-three new members were admitted during the same period, and that no less than eleven members were removed by death during that time.

The hour being late, the election of delegates to the American Medical Association, and the appointment of committees, etc., will be continued at the adjourned anniversary meeting, on the first Monday of November next.

SURGEONS IN THE LIBBY PRISON AT RICHMOND.—The following is a list of the Union surgeons still held as prisoners in the Libby Prison at Richmond, contrary to all the positive and definite agreements hitherto made in regard to these prisoners.—Surgeons W. M. Houston, One Hundred and Twenty-second Ohio, captured June 15; W. F. McCurdy, Eighty-seventh Pennsylvania, June 15; Alston W. Whitney, Thirteenth Massachusetts, June 20; W. A. Rodgers, Third Tennessee, June 19; W. Spencer, Seventy-third Indiana, April 30; J. L. Morgan, Tenth Massachusetts, May 13; C. E. Goldsborough, Fifth Maryland, June 15; Lewis Applegate, One Hundred and Second New York, July 2; T. C. Smith, One Hundred and Sixteenth Ohio, June 15; A. A. Mann, First Rhode Island cavalry, June 18; R. P. McCandless, One Hundred and Tenth Ohio, June 16; A. S. Looker, Sixth Illinois cavalry, May 20; C. T. Simpers, Sixth Maryland, June 15; F. M. Patton, Twelfth Virginia, June 15; O. Nellis, Second Virginia cavalry, July 19; W. W. Myers, United States steamer Georgia, May 14; M. F. Bowen, Twelfth Pennsylvania cavalry, July 15; J. L. Brown, One Hundred and Sixteenth Ohio, June 15; — Ketchum, Eighty-third New York, June 29; D. B. Wren, Seventy-fifth Ohio, June 20.

D. H. STAUDNER, one of the staff of the German expedition to Central Africa under Baron Henglin, has died of fever after having passed through the dangerous miasmata of the morasses of the White Nile.

## Original Lectures.

### LECTURES ON THE MORBID CONDITIONS OF THE BLOOD.

DELIVERED AT  
THE BELLEVUE HOSPITAL MEDICAL COLLEGE.

PRELIMINARY TERM, SESSION OF 1893-4.

By AUSTIN FLINT, M.D.,

PROF. OF THE PRINCIPLES AND PRACTICE OF MEDICINE.

#### LECTURE I.

*General Remarks on the Importance of the Blood.—Classification of the Constituents of the Blood.—Morbid Conditions relating to the Organized Corpuscular Elements.—Plethora—Anæmia.*

GENTLEMEN:—I have selected as the subject of the few lectures assigned to me during the preliminary term, the morbid conditions of the blood. I have selected this subject with reference, not so much to its attractiveness, as to its great importance. With our present pathological views, the question as to the existence of morbid conditions of the blood enters into the consideration of a very large proportion of diseases.

As expressive of the importance of the blood, it is distinguished as the *vital* fluid. In literature and common parlance, it represents life. "Life's blood" is a common expression. To have one's blood is to take life. Its importance is shown by the fact that its presence in all the so-called vital organs is indispensable to the exercise of their functions. A striking and familiar illustration of this fact is afforded by the temporary loss of the mental faculties and consciousness, as a result of a momentary arrest of the supply of blood to the brain, in syncope or fainting. The blood, in fact, may be said to be the grand condition of vitality. Its detention from a part occasions the molecular death of the part, i.e. gangrene or sphacelus. Its abstraction, beyond a certain limit, from the body, occasions general or somatic death. The suspension of its distribution by an arrest of the heart's action for two or three minutes only, is fatal. It forms a vital medium for all the organs essential to life, on which they are dependent, as the body or the blood itself is dependent on the surrounding atmosphere. The physiological relations of the blood to the solid parts being so intimate, it might reasonably be expected, *a priori*, that pathological changes in this fluid should give rise to corresponding morbid phenomena in the organs and tissues of the body. Observation shows this to be true. There are grounds for the belief that a large proportion of the morbid actions and changes which occur in the solid parts, are due to prior alterations in the blood. In many instances, as will be hereafter seen, the dependence of the former on the latter may be inferred, or rendered probable, although not demonstrable with our existing knowledge. Supplies for the growth and repair of all the body are contained in the blood. This fluid, therefore, represents, in its constituents, all the elements which enter into the composition of all the solid parts. It is taking but a step from the prosaic walks of scientific fact to the domain of fancy, to say that the blood is the solid body in a liquid state. "The blood is the centre round which the general metamorphosis of animal matter revolves, and in which it is perfected."\* It might be rationally predicted that morbid alterations in its composition and distribution may lead to diseases seated in the solids, and this will be found to be the case. Another aspect foreshadowing the importance of the blood in its pathological relations, is its office as a reservoir for the accumulation of effete principles, the detritus of the tissues, which are to be eliminated by excretion. Here is a

source of disease, as will be presently seen. Again, the physiological activity or mobility of the blood is very great. In this respect it is in striking contrast to the solid parts. It is the seat of unceasing changes, and yet, in health, maintains a uniform state as regards its organization and composition. New matter, derived from ingesta, is daily added in considerable quantity, and a proportionate amount is derived from the decomposition of the tissues. Portions are appropriated by the different structures. Other portions are secreted for various useful purposes in the economy. Other portions are thrown off or excreted. There is a constant interchange of gaseous elements with the surrounding atmosphere by means of respiration and through the cutaneous surface. Thus, it is the seat of constant and great changes, denoting wonderful activity, and yet its constitution remains the same. In this fact are admirably exemplified the precision and adaptation of the laws presiding over the safety and welfare of the organism. But this activity necessarily renders it more liable to morbid actions and conditions than the solid parts, which in health are less active and more stable.

The blood is a complex fluid. It contains a large number of ingredients, preserving, however, certain fixed anatomical characters. Anatomically considered, it consists of certain corpuscular bodies, viz. the red globules, the white globules or leucocytes, and globulins, which are suspended in a liquid called the *liquor sanguinis*, blood-plasma, or intercellular fluid. These are resolvable, by analysis, into numerous elements, some of which are organic, i.e. peculiar to organic bodies, and others inorganic or mineral. Examples of the organic elements are, fibrin, albumen, hæmatine, etc. The inorganic elements embrace various saline ingredients, iron, water, and several gases. Further details belong to anatomy and physiology. It is necessary thus to glance at the composition of the blood, in order to arrange its morbid conditions. These conditions relate to the different constituents of the blood; and, with a view to the consideration of pathological changes, the latter may be distributed into three groups. The first group will embrace the corpuscular, distinguished also as the organized, constituents. The second group will consist of the organic elements. The third group will comprise the mineral substances. Morbid conditions, affecting, severally, these three groups, will be first considered in the foregoing order, and afterwards, morbid conditions due to the introduction into the blood of substances which do not enter into its normal composition. Even with our present imperfect knowledge of the blood in health and disease, it is, in itself, a large field of study, which, considered as a distinct province of medicine, is called *hematology*.

Of the corpuscular or organized constituents of the blood, the most abundant and important are the *red globules*. The known morbid changes affecting these, relate, in the first place, to their number. They may be morbidly increased or diminished in number. An increase of the number of red globules beyond the healthy limit constitutes the morbid condition called *plethora*. A diminution below the limit of health constitutes the morbid condition called *anæmia*.

The relative proportion of the red globules to the other constituents of the blood may be increased by diminution of the latter. This obtains in a marked degree in epidemic cholera, owing to the draining away through the intestinal canal of the water of the blood, together with various elements held in solution by the transuded liquid. The density of the blood in this disease is notably increased; it becomes thick and heavy, and the circulation is mechanically impeded. Under these circumstances, the red globules are relatively in abnormal excess, although they are actually less in number than in health. The term *plethora* is only applicable to an actual increase of the number of the red globules. This is now the significance of the term, without regard to the quantity of the mass of blood. An increase of the mass, causing over-repletion of the vessels, does not constitute *plethora*, although implied in the ety-

\* Lehmann.



mology of the term. This condition is called *polyamia*. Its existence to an extent sufficient to constitute a morbid condition of importance, is doubtful.

The functions of the red globules in health are not fully understood. Their relative normal ratio to the other constituents of the blood differs considerably in different animals, and they appear to sustain a certain relation to vigor, strength, and activity; that is, they are abundant in races, breeds, and individuals, in proportion as the general attributes of the body just named are marked. Their importance is shown by the fact that animals bled nearly to death may be reanimated by injecting into the veins red corpuscles suspended in serum, and not by the introduction of the other constituents of the blood without the red corpuscles. From what is known of their physiological relations, it might be inferred that the effects of their morbid excess would be over-activity of the circulation and undue excitement of organs in proportion to their normal activity and the quantity of blood which they receive in health. The phenomena of plethora denote these effects. The power of the heart's action is increased. The temperature of the body is raised. The brain is stimulated, giving rise to unusual mental energy and excitement. Sensibility and muscular irritability are augmented. In comparing, however, different persons, it is not easy to draw the line of demarcation between more or less intensity of the so-called sanguine temperament and plethora. A better idea of plethora, as a morbid condition, is formed by a comparison of the same person at different periods, and especially if the person have naturally a temperament not notably sanguine. He acquires more color in the pro-labia and face. The mucous membranes are reddened. The pulse is full and strong. The heart's impulse is increased. The physical and mental powers are more active. The body is notably warm. Pain in the head is readily induced by stimulants or mental excitement, owing to the abnormal power of the circulation. This condition involves a liability to active cerebral congestion. It is supposed to constitute a predisposition to acute inflammations. It doubtless tends to render inflammations more intense, and to increase the symptomatic febrile movement. It may favor hæmorrhages, especially into the brain, by means of the increased force of the circulation. On the other hand, an abundance of red globules exempts from nervous disorders, to which, as will presently be seen, a paucity of red globules predisposes.

The causes of plethora are, first, a constitutional tendency, which may be congenital and inherited; second, overfeeding, with the use of generous wines and condiments; third, diminished expenditure of blood constituents in nutrition, incident to ease, idleness, and luxurious habits, the digestive and assimilative functions remaining active; and fourth, the arrest of periodical or habitual hæmorrhages, or some other drain to which the system had become accustomed. These several causes are frequently combined.

It is important for the physician to appreciate the condition of plethora, in order to avert the evils to which it tends, by appropriate management. And, as an incidental element in different diseases, it is to be taken into account in considering the effects of therapeutical measures. It is relieved, for the time, most promptly and efficiently by bloodletting. An immediate effect of the abstraction of blood is a notable reduction in quantity of the red globules. Of course, the propriety of resorting to bloodletting will depend on the degree of plethora and the apparent imminency of evil results. Other means to diminish the excess of red globules are, a reduced diet, as regards the quantity and quality of food, and exercise, in order to increase the expenditure of blood-elements in repairing muscular waste, and render the amount of eliminated matter more abundant. Certain medicines appear to exert a direct effect upon the number of red globules. Mercury is such a remedy, as shown by the pallor which accompanies salivation. Mercurialization, however, is never indicated for the attainment merely of this object.

It is important not to confound plethora with other morbid conditions of the blood or circulation. Fulness of the vessels, due to some impediment to the circulation, has not unfrequently been considered as plethora. This may exist where the red globules are diminished, rather than increased. A pseudo-plethora, for example, is not uncommon in pregnancy, the red globules being diminished in this state. Bleeding was formerly employed with reference to this pseudo-plethoric condition, of course with an injurious effect on the constitution of the blood. With pseudo-plethora, or fulness of the vessels, there is often evidence of deficient oxygenation of the blood, together with dulness and oppression instead of heightened activity of the functions of the brain and other organs. True plethora is to be determined by the symptomatic phenomena which have been mentioned, taken in connexion with the evidence afforded by the pulse and other symptoms of an unobstructed, free circulation, with the activity of the digestive and assimilative functions, and the existence of one or more of the conditions under which this morbid condition is known to be produced. A microscopical examination of the blood may suffice to determine the existence of the plethora, if the observer be sufficiently practised to decide whether the red globules in several successive specimens are in excess or not. It may be determined by quantitative analysis, but the process is too tedious and delicate for ordinary clinical purposes.

As regards the essential pathological nature of plethora, all that can be said is, it consists in a hypergenesis of the most important of the organized or corpuscular constituents of the blood, the red globules. The pathologist might expect to explain this morbid condition more fully, if the physiologist were able to tell us where and by what process the red globules are normally produced.

A morbid diminution of the red globules of the blood constitutes *anæmia*. The etymology denotes diminution of the mass of blood, but, conventionally, the term is used to signify reduction of the quantity of red globules. *Spanæmia* is sometimes used in the same sense.

The purest exemplification of anæmia is afforded by cases in which it has been produced by copious hæmorrhages or repeated bloodlettings. It is not easy to effect, except for a transient period, a considerable reduction in the mass of blood. After a loss by hæmorrhage or bloodletting, the quantity of liquid which has escaped is quickly replaced, but the red globules are not so speedily renewed, and, hence, the latter continue for a greater or less period to be deficient. This condition is one of the forms of so called impoverished or poor blood. The degree of impoverishment varies. The proportion of red globules has been observed to fall below the normal range (120 to 130 in 1000 parts) to 70, 60, and even 21 to 1000 parts.

Anæmia is of frequent occurrence. It is incident to a variety of diseases. It gives rise to a multiplicity of phenomena. It is a condition highly important for the physician to appreciate and recognise. The knowledge of this condition obtained within late years constitutes one of the most striking of the characteristics of modern medicine in view of its importance on medical practice. It occurs much more frequently than the opposite morbid condition, viz. plethora.

In general terms, the pathological effects of anæmia are the reverse of those due to plethora. The power of the circulation is diminished, and there is a deficiency of the functional energy of different organs, the more marked in proportion to the quantity of blood which they receive in health. The phenomena denote these effects. The animal temperature is lessened. Anæmic patients have coolness of the surface, and especially cold extremities. They are not so able to resist cold as the plethoric. The action of the heart is feeble; the pulse is small, weak, compressible. The action of the heart is easily disturbed, becoming rapid from slight causes, and

frequently irregular. The mental energy is diminished; persons are not adequate to the intellectual efforts of which they are capable in health. The strength of will and determination of purpose are impaired. The vital functions are languidly performed. The muscular strength is diminished. The surface is pallid from the deficiency of the hæmatine or coloring matter contained in the red globules. This pallor is apparent in the face, and especially the prolabia. The mucous membranes accessible to view have less redness than in health. The countenance at once denotes the existence of anæmia if the condition be marked.

It induces a multiplicity of morbid phenomena arising from disordered action of the nervous system. The relations of the blood to the functional activity of the nervous system are strikingly shown in the morbid phenomena pertaining to the latter, which spring directly from morbid conditions of the former. And the special relations between the red globules and the nervous system are shown by the phenomena incident to anæmia. These phenomena are numerous and diversified. The more frequent and prominent are as follows:—Mental depression, anxiety respecting health, hypochondriasis, irritable temper, want of buoyancy and energy, a feeling of lassitude and a painful sense of inertia or indolence. There is apt to be a feeling of incapacity for muscular exertion greater than the actual loss of muscular power. The physical and mental powers are especially depressed during the process of digestion. Palpitations frequently occur, so that organic disease of the heart may be suspected by those not conversant with physical means of diagnosis, and is greatly feared by the patient. Neuralgia in various situations is apt to occur, and in females hyperæsthesia of the abdominal walls simulating peritonitis. The varied symptoms which have been heretofore described as belonging to spinal irritation, are likely to occur in connexion with anæmia. It sustains a causative relation to nearly all the functional affections of the nervous system embraced under the head of the *neuroses*. A large proportion of persons affected with any one or more of this class of maladies are anæmic; and, conversely, a large proportion of anæmic persons become affected with neurotic disorders. It is highly important that this pathological element be taken into account in the management of the *neuroses*. When it occurs independently of the various affections with which it is connected incidentally, it is characterized especially by phenomena relating to the nervous system. These phenomena may be said to constitute the pathological expression of this morbid condition of the blood.

If it be asked, what is the explanation of the occurrence of these phenomena in consequence of a diminution of the red globules, the pathologist can only say that he may hope to answer the question when the physiologist is able to explain the normal relation between the presence of the red globules and the functions of the nervous system. Pathological facts show that an essential relation does exist between these two anatomical elements of the body. The nervous system depends on this blood-constituent for the manifestations of healthy life, and, hence, a deficiency occasions manifestations of disordered life, or morbid vital phenomena.

The causes of anæmia, when it exists independently of the various affections with which it is associated, are frequently obvious, but in some instances not assignable. It is a result of hæmorrhages, from wounds, flooding after labor, and in cases of menorrhagia, or injudicious blood-letting. It may proceed from deficient alimentation; the food being insufficient in quantity or not sufficiently rich in alimentary principles. It is caused by a loss of certain of the elements of the *liquor sanguinis* or blood plasma, which are necessary to the production of red globules. Thus, frequent causes are prolonged lactation and a rapid succession of pregnancies. The obvious causes may be arranged into the three classes just stated, viz. 1st, Causes which involve an actual loss of red globules, as in hæmor-

rhages; 2d, Causes involving a defective supply of materials for assimilation; and, 3d, Causes which occasion expenditure of the constituents of the *liquor sanguinis* on which the production of the red globules is dependent.

The causes are not always apparent. Anæmia is apt to occur in females at or near the age of puberty, where there has been no loss of blood, no deficiency in alimentary supplies, and no unusual expenditure of blood-plasma. Under these circumstances it constitutes the affection to which the name *chlorosis* was applied before the anæmic condition was fully understood. If this name be retained it should be considered as denoting anæmia occurring under the circumstances just stated. It appears to be in some way connected with the evolution of the reproductive functions. In some cases it may be accounted for by the derangement of the assimilative functions at this period. In these cases the appetite is poor, the digestion disturbed, and there is apt to be a craving for indigestible, innutritive substances, such as chalk, slate, coal, etc. Addison has described cases of anæmia occurring without any obvious causation, accompanied by general debility, which progressively increases, at length ending fatally without appreciable lesions of any of the vital organs. Cases of this kind are occasionally met with, especially in hospital practice. Addison distinguishes them as cases of "idiopathic fatal anæmia." In a certain proportion of these cases, the surface of the body, to a greater or less extent, assumes a dark discoloration or a bronzed appearance, and in several successive cases the supra-renal capsules were found to be more or less disorganized. Addison inferred from these facts a pathological connexion between disease of the supra-renal capsules and the bronzed hue of the skin. Clinical observation, however, shows that the two events are not uniformly associated.

In a large proportion of the cases in which anæmia exists, it is incidental to, or a pathological element of some other affection. And, as thus associated, it may, or may not, claim the special attention of the practitioner. Of the great number of diseases in connexion with which it is connected either constantly or frequently, the following list will inclose the more prominent.

1. Tuberculosis. Anæmia is generally early developed in tuberculous affections, and may precede the deposit of tubercle.

2. Carcinoma. The pale, waxy, or straw-colored complexion which characterizes some cases of carcinomatous disease, denotes anæmia.

3. The affections embraced under the name of Bright's disease. Associated with œdema of the face, the pallid complexion of anæmia becomes quite characteristic of these affections. The blood-changes which belong to these affections (to be hereafter considered) lead to diminution of the red globules.

4. A host of affections which involve expenditure of other constituents of the blood than the corpuscles, i.e. constituents of the *liquor sanguinis*, such as chronic dysentery and diarrhœa, chronic pleurisy, purulent formations in any part of the body, leucorrhœa, etc.

5. Affections which involve loss of corpuscles, or hæmorrhage, as menorrhagia, hæmorrhoids, hæmatæmis, etc.

6. Affections compromising the assimilative functions by occasioning indigestion, vomiting, loss of appetite, etc.

7. Certain affections of the liver, and especially cirrhosis. It has been supposed that the red globules are produced within the liver. If this be true, diseases of this viscus may lead to their diminution by interfering with their production. But in cirrhosis this effect is due in a measure to the obstruction to the introduction of fresh alimentary supplies brought by the portal vein.

8. The periodical fevers, if protracted. The special cause of these fevers may induce anæmia even where the fevers are not developed. Persons inhabiting regions called miasmatic, are apt to become anæmic, although they do not experience fever.

Certain mineral substances introduced into the system

lessen the red globules in a notable degree. This is true of lead. Anæmia is a pretty constant element of saturnine diseases; and it is observed in persons exposed to lead emanations before becoming affected with the characteristic diseases. The same is true of mercury. Mercurialization quickly reduces the quantity of red globules in a marked degree.

## Original Communications.

UPON

### GUNSHOT WOUNDS OF THE KNEE-JOINT, WITH CASES.

By JOHN A. LIDELL, SURG. U.S.V.,

IN CHARGE OF STANTON HOSPITAL, WASHINGTON, D.C.

THE surgical relations of gunshot injuries involving the knee-joint, are more important than those pertaining to any other articulation in the whole body, because of the greater size of the joint, and the superior danger which experience has shown to attend all derangements of its structure. Wounds of the osseous tissue belonging to this articulation, are much graver in character than wounds of the soft parts. It sometimes happens that a musket-shot hits the knee in such a way as to open the joint to greater or less extent, without breaking bone, and the patient gets well with a good limb. I have seen three cases of this kind, all of which terminated favorably. If happens more frequently, however, that a bullet impinges against the knee, in such a manner as to course along beneath the integument for a distance greater or less, in close relation to the synovial membrane, but without entering its cavity; and of such cases almost all make good recoveries, provided they are subjected to appropriate treatment. But if, on the other hand, the articulating end of either the femur or the tibia happens, at the same time, to be splintered by the bullet, the nature and character of the case are entirely changed. The patient will not make a good recovery. Sooner or later the joint will swell up, having become highly inflamed, great constitutional disturbance will also be developed, and the patient will ultimately lose his life if the limb is not removed by timely amputation.

But a bullet passing through the knee-joint does not always splinter the bone, or otherwise break it into fragments. It may cut a simple groove in the spongy epiphysis of the femur or the tibia, as the case may be, without doing any other mischief to the osseous structure. In this way a bullet may pass through that articulation, from before backwards, and the patient finally recover with a stiff joint. I have known one case of the sort.

The most dangerous cases, however, are those wherein the bullet enters the limb at a distance (greater or less) from the joint, and without opening the cavity of the synovial membrane, or perhaps without even coming into relation with it, shatters the bone in such a way that the fissures extend to the cartilage covering the articulating end of the bone, or even into the synovial cavity itself, if the splintering happens to be very great. The danger of these cases is much increased by their insidious character. The patient may do well for eight days or even two weeks after he is wounded, and then of a sudden be seized with great pain in the joint, followed speedily by heat, tenderness, and much swelling. At the same time he has constitutional disturbance in the shape of surgical fever and great restlessness. Now, if the traumatic origin of this arthritis happens to be overlooked, and if the case is put under treatment as if it had begun spontaneously, then the inflammation will extend rapidly from the joint to the thigh, and in a short time involve it so extensively, that, if the surgeon shall now wish to remove the limb by amputation, he cannot find healthy tissues through which to operate; and before long the thigh will be converted into

a vast abscess communicating with the joint. These are the so called cases of secondary inflammation of the knee-joint, and are certain to turn out badly if the limb is not amputated in season. As soon, therefore, as this form of traumatic arthritis develops itself, its exceedingly dangerous character should be recognised, and the limb cut off before the inflammation has had time to spread through the thigh in the form of diffuse cellulitis. In all such cases amputation must be performed early, if it is expected to save the patient.

With regard to the treatment of gunshot injuries, in general, of the knee-joint, I believe that in all cases of wounds of the soft parts alone, whether the synovial sac be opened or not, an effort should be made to save the limb, provided the loss of substance is not great. For this purpose the patient should lie still in bed, and have ice constantly applied to the seat of injury, quietude and ice being the most reliable agents for cure in such cases. If, however, the loss of substance be extensive, as in case of certain wounds inflicted by the explosion of shells, primary amputation should be performed. Again, if the bullet pass completely through the joint, cutting simply a groove on the articular surfaces, without comminution or splintering, I believe it to be our duty to try to save the limb; but if severe arthritis should supervene, it will then become our duty to amputate without delay. In all cases of wounds in the neighborhood of the knee-joint, associated with comminution and splintering of the articular end of either the femur or the tibia, amputation should be performed as soon as the diagnosis is made out. In some cases the diagnosis is readily made by exploring the wound with the finger; in other cases it will be difficult to make, and even uncertain, until the secondary arthritis has appeared, as happens when the shaft of the femur has been split by a conical bullet, the fissure extending to the knee-joint.

CASE I.—Private W. V., Co. D, 4th Pennsylvania Cavalry, aged 22 years, and of sound constitution, was admitted to Stanton Hospital June 24, 1863. He had received a gunshot wound in the neighborhood of the right knee June 20, four days previously. The bullet (carbine) entered the limb on its anterior inner face, a short distance below the joint, passed backwards and upwards, escaping through the popliteal space, apparently without opening the joint. From the course and direction of the wound we supposed the upper part of the tibia to be injured. At time of admission patient's condition was good. There was no pain, heat, tenderness, or swelling, in the injured knee. He was directed to refrain from using it, by remaining quietly in bed, to have ice applied to the wound constantly, so as to lessen the danger of inflammatory action therein, and to be supported by a nutritious diet. Under this treatment his case progressed without an untoward symptom, till July 5, eleven days after admission to hospital, and fifteen days after the infliction of the wound. At inspection on this day I specially noticed his condition as very promising, the anterior orifice of the wound being nearly healed. But about the middle of the following night he was seized with great pain and distress in the injured knee. The officer of the day was called to him, and administered morphia in full doses, but without producing much relief. July 6, morning.—He complains of intense gnawing pain in the right knee; it is much swelled, hot, and exceedingly tender: he cries out from agony occasioned by pain, although the pupils are markedly contracted, from the large quantity of the anodynes taken; countenance expressive of great distress; pulse frequent, quick, and irritable; skin hot and dry; has thirst, and a coated tongue; has had a slight chill. Ordered free abstraction of blood by cups from the neighborhood of the knee. Hydrarg. chlor. mit. grs. x., and anodynes, to make him comfortable, if possible.

July 7.—Morning: Patient's condition not materially changed from yesterday. Seeing that the arthritis was secondary to a gunshot wound, and believing that it was associated with fracture and comminution of the upper end

of the tibia, amputation appeared to be the proper remedy. Accordingly that operation was performed in the lower third of the thigh by the circular method, about midday, thirty-six hours subsequent to the attack of arthritis. Anæsthesia was produced by sulphuric ether. He bore the operation well.

On examination of the amputated limb, the inner part of the head of the tibia was found to be extensively injured by the bullet: a deep furrow had been ploughed in the bone, associated with much comminution, and some of the fragments were connected directly with the joint. The cavity of the joint was found to contain about four ounces of dirty-brown colored viscid liquid, in which yellowish shining globules (synovia) floated, looking like oil. A quantity of the same dark-colored liquid had been squeezed out through the posterior orifice of the gunshot wound, while amputation was being performed. The lining membrane of the joint had entirely lost its polished and shining appearance. It was also stained with a dull red hue, throughout its whole extent, from the coloring matter of the blood, which had been effused into the joint. The staining extended to the depth of about a line. The articular cartilage, at the seat of injury, was undergoing fatty transformation. The internal semilunar cartilage covered over completely the fissures in the head of the tibia, so that the contents of the joint could not readily escape.

The patient did well after the operation, and at the present time (Oct. 1st.) the stump is nearly healed.

**CASE II.**—Private S. K., Co. "E," 7th Michigan Cavalry, aged 29 years, was wounded by a carbine-shot while on duty at Chantilly, Va., June 19th, 1863. The bullet entered the front of the left thigh at about its middle, and passing downwards and inwards, lodged beneath the skin on the inner side of the knee joint. He was brought to Washington and admitted to Stanton Hospital six days afterwards (June 25).

June 27th.—The bullet (a conical carbine one) was readily extracted by making an incision down upon it. Its situation was superficial, and the joint did not appear to be involved with it in any way. The joint was neither swelled nor tender. July 2d. (Five days later).—Some pain and swelling of left knee were noticed for the first time; ordered an ice-bag to be kept on the knee. 4th.—The swelling has extended up the thigh, which was painted with tinct. iodine on that account. 5th.—He had fever, with a quick pulse and a furred tongue: the neutral mixture was prescribed for him. 6th.—There was well-marked erysipelas of the left thigh, and well marked effusion in the knee-joint: he was directed to take tinct. ferri muriat. gtt. xx. every six hours, to use alcoholic stimulants freely, and to have a nourishing diet. 8th.—The erysipelas extended up to the groin, and the pulse was frequent and feeble: same treatment continued. 12th.—The discharge of pus was free, the tension and swelling of the thigh sensibly diminished, but he was manifestly failing in flesh and strength: same treatment continued. 17th.—He continued to fail, and rejected all nutriment except beef tea: continued same treatment with the addition of quinine. 18th.—He was seized with diarrhoea; he sank and died in the evening.

The autopsy showed that the bullet had lacerated the sartorius muscle extensively, and splintered the internal condyle of the femur: that the joint and the cellular tissue of the thigh were filled with dark-colored and very offensive pus, and that the articulating surfaces of the femur and the tibia were denuded of cartilage. There was but little, if any displacement of the fragments of broken bone.

This case interests me very much, because, June 27th, when the bullet was extracted, there was not the slightest evidence of injury of the inner condyle of the femur, nor indeed of any other bone whatever. He had walked into the ward unassisted when admitted to hospital. The bullet was quite superficial, and readily extracted by making a simple incision through the skin, upon it. At this time it was not in relation with the injured condyle. During the eight days which elapsed between the receipt of the

wound and the extraction of the bullet, the said bullet must have slipped away from the fractured part of the condyle into a new position just underneath the integument, and towards the front part of the articulation.

When, therefore, on the 2d day of July, a moderate amount of inflammatory trouble appeared in the knee, we thought it to be due to the extension of the mischief through the soft parts to the joint, and that it was not due to injury of the bone. Again, when the true character of the difficulty was recognised, it was too late to amputate, because the whole thigh was involved with diffuse cellular inflammation.

This case also affords a good illustration of the obscurity of the symptoms, and the difficulty of the diagnosis, which may attend even serious gunshot injury of an articulation so thinly covered with soft parts, and so easy of examination from every side, as the knee-joint.

WASHINGTON, D.C., Oct. 1, 1868.

## DISLOCATION OF CLAVICLE

**DIRECTLY UPWARDS, AT ACROMIAL END—UNREDUCED AT THE  
END OF ONE YEAR—USE OF ARM PERFECT.**

BY FRANK H. HAMILTON, JR., ACT. ASSIST.-SURG.  
U.S.A.

PRIVATE JAS. O'BRIAN, Battery M, 1st Artillery, set. 26, was injured, September, 1862, by jumping off from a horse car while in motion. His foot caught, and he fell between the two steps, while one wheel traversed the shoulder and breast below the clavicle on the right side. A three-quarter inch bolt was driven through the integuments just above and within the axilla, comminuting the first rib, severing the acromio-clavicular attachments, thus producing a complete upward dislocation of the clavicle at this point. He was removed to the Long Island College Hospital, Brooklyn, but owing to the extensive external injuries no attempt was made at the reduction of the bone, nor were there subsequently any apparatus or splints applied to the shoulder. At this date the clavicle still remains in the position it occupied the moment after the accident. The bone is removed full two inches directly upwards from its normal position, with merely a long slim tendon connecting it with the acromion process.

The point of interest in this case, is, that the strength of the injured arm is in no wise impaired. Wishing to obtain an accurate knowledge as to the comparative strength of the two arms, I made some experiments a day or two since. The following is the result:—

He lifted from the ground, and sustained above his head, with the arm fully extended,

With the right arm, 56lbs. 3oz., for thirty seconds.

“ left “ “ “ “  
At arm's length, at right angles to his body,

With right arm, 25lbs., fifteen seconds.

" left, " seventeen seconds.

The performances of the arms are as nearly alike as are those of most men. He is conscious of no weakness at all in the injured arm. This case may be of value at some time in a medico-legal point of view.

**MEDICAL APPOINTMENTS.**—Dr. D. S. Conant has been appointed Professor of Anatomy, and Dr. Wm. M. Chamberlain, Lecturer on Obstetrics, in the New York Medical College.

M. BERTHELOT tells us that the principles which give to wines their vinous flavor, may be isolated by shaking the wine with ether, and evaporating the ether at a low temperature, without the contact of air. An extract is thus obtained whose weight is less than one-thousandth of that of the wines. The vinous flavor and the bouquet are concentrated in this extract, which is rapidly decomposed by exposure to the air.—*Brit. Jour.*

## Reports of Societies.

### NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, May 18, 1898.

DR. D. S. CONANT, PRESIDENT, IN THE CHAIR.

#### LIPOMA.

DR. VOSS presented a specimen of lipoma from the side of the right tibia of a patient aged but seven months. The mother said that when the child was but four months old, she noticed a small growth on the side of the leg, about the size of a pea, and since that time the tumor grew rapidly to the size of a small orange. The supernatant skin was firmly attached to the growth. Though no diagnosis of the nature of the disease was made, Dr. Voss was nevertheless inclined strongly to favor the supposition of malignant disease. On removal, it was found to consist simply of fat. The specimen was interesting, in the first place, on account of its situation, and in the second place, in reference to the age of the patient.

DR. VOSS recollected a somewhat similar case which occurred in his own practice. The patient was a boy but a year old, who had a lipoma a little larger than the one presented, but situated on the lumbar region.

#### NECROSIS OF LOWER JAW.

DR. VOSS presented two sides of the lower jaw, together with several smaller pieces, which he had removed from a child seven years of age, on account of necrosis. The Doctor saw the child for the first time in October last, and found the jaw very much swollen, and there was also a foetid discharge from some fistulous openings in the mouth. By introducing a probe into these openings, the nature of the disease was readily discovered. Previous to the attack of periostitis, which, by the way, occurred simultaneously on the two sides, the child had never suffered from any sickness. The dead portions of bone were removed from the inside by enlarging the fistulae, and consisted of the two articular processes, coronoid processes, angle, and that portion of the body of the bone not included in the chin. Subsequently to this, various other pieces of bone were removed, including several of the teeth. The patient made a good recovery, the wounds healed up kindly, and new bone has appeared in place of that which has been removed. There is no deformity perceptible, save a retraction of the chin and a want of prominence at either angle of the jaw. In consequence of this retraction, the tongue is thrown back somewhat upon the larynx, and the child has a slightly noisy respiration. It was the intention of Dr. Voss to show the child in connexion with the specimens, but the inclemency of the weather prevented.

DR. ELLIOT remarked, that in a case where Dr. Carnochan removed the entire lower jaw, the deformity was not enough to be noticed by any save a professional person.

DR. GARRISH referred to the case of a child, five years of age, who lost three-fourths of the lower jaw by necrosis, the result of salivation from only four grains of calomel given at a dose.

DR. VOSS stated that there were no evidences of either phosphorus or mercury acting as a cause of the disease; in fact, he was at a loss to decide what was the cause, unless, perhaps, the second dentition might have had something to do with it. It was certainly very strange to him how both sides of the jaw were simultaneously affected.

#### TUMOR FROM CICATRIX.

DR. POST presented a small tumor removed from an old cicatrix. The patient was 50 years of age, and fourteen years before had a tumor, supposed to be cancerous, removed from the epigastric region. It was situated four inches above the umbilicus, almost exactly in the median line beneath the abdominal integument, its deep surface

being in close proximity with the abdominal aponeurosis. It had been but five months in growing to the size of a goose-egg. As no microscopical examination had been made of it, it was moved that Dr. Voss be a committee to report upon its composition at the next meeting.

#### DISEASE OF COLON—APOPLEXY.

DR. LEWIS SMITH presented a portion of the colon which had been removed from a man who died at the age of 50 years. Dr. Smith knew nothing of the case previous to the autopsy. The patient had had pretty good health until about a year before his death, when he was attacked with apoplexy, followed by paralysis of the left side, which, however, gradually disappeared, though the mind remained impaired. Three or four months before his death he had symptoms of gastro-enteritis, and from that time until his death he complained of a good deal of distress in his bowels, and suffered from constipation. There was also present a good deal of meteorism, and his attending physician thought that he detected serous effusion in the abdominal cavity. About three days before death the patient had a second attack of apoplexy, from which he never recovered.

The autopsy revealed a considerable amount of serum in each pleural cavity, the result of a non-inflammatory effusion. The heart was considerably enlarged, but the valves were perfect; the ascending aorta and transverse portion were considerably enlarged, and there were found patches of atheroma over the inner surface of the vessel. The stomach was somewhat distended, and its mucous membrane thickened, as was also the mucous membrane of the duodenum. The jejunum and ileum seemed normal. The colon was found eight feet in length, and its mucous membrane was vascular and much thickened. The vascularity presented a slate-colored appearance, proving that the inflammation had existed for a considerable length of time.

On removing the calvarium the surface of the brain was found less vascular than usual. The lateral ventricle of the left hemisphere was filled with liquid blood, and at its side in the substance of the anterior and middle lobes, the brain substance was lacerated to the extent of three inches in length by three in breadth, inclosing a clot of the same side. A little blood had passed through the foramen of Munro into the right ventricle, and had settled into the posterior cornua. In the right ventricle were also found the remains of the old clot, which had of course existed there for about a year. In its centre it had undergone the calcareous change. On microscopical examination the calcareous substance was found to consist of carbonate of lime, together with crystals of cholesterine. There were no evidences of laceration of the brain substance as the result of the previous attack of apoplexy.

#### GUNSHOT WOUND OF NECK.

DR. FINNELL exhibited the results of a gunshot wound of the neck. A man, twenty-five years of age, was shot in the neck about four weeks before, the ball entering in the right side, on a level with the cricoid cartilage. The shock which followed the injury, was considerable, and when the patient was first seen by Dr. Finnell, a surgeon was endeavoring to extract the ball. A probe had been passed into the opening, and had been felt near the mastoid process; and the surgeon, being convinced that the ball was to be found in that neighborhood, had made a counter-opening with a view of coming down upon it. He, however, did not succeed in finding it, and Dr. Finnell had the patient removed to St. Vincent's Hospital. Soon after the admission of the patient, it was evident that extravasation was going on in the deep tissues of the neck. The hæmorrhage from the bullet wound was very slight. At nine the following morning, two hours after the injury, the patient was found suffering a great deal from difficulty of swallowing, and also dyspnoea; the tumefaction in the neck was steadily increasing, and it was very evident

that something should be done to relieve the patient. Accordingly, at one o'clock, sixteen hours after the injury, Dr. Finnell made an incision by enlarging the original wound, in order to explore for bleeding vessels, at the same time to relieve the tension of the parts. The incision was carried across the neck to meet the counter-opening that had been made. The sterno-cleido-mastoid muscle was cut across, and on its posterior surface a small vessel was found severed, and was tied. A large quantity of clotted blood was thrown out from under the fascia, and the patient at once experienced great relief. An exploration was made, but on account of the burrowing from extravasation, no track of the bullet could be found. Immediately after being wounded the patient complained of numbness in the right arm and right hand. The wound was carefully closed after the operation, and the patient was left in the care of the House-Surgeon. Everything went on well until the eleventh day after the injury, when there was a sudden gush of blood from the wound, which left the patient almost pulseless. The House-Surgeon, who was immediately by his side, carried his thumb into the wound, and made compression, succeeding in arresting any further hæmorrhage; but the patient had lost too much blood to recover, and gradually sank and died in the course of five hours afterwards.

On post-mortem examination the ball was found to have passed directly posterior, lodging in the transverse process of the sixth cervical vertebra. The opening made by the ball was hardly large enough to admit the introduction of a good-sized catheter, but the ball, in striking against the bone, had so flattened itself out as to cover three times as much space. The vertebral artery was found severed in the situation of the bullet, and it was from this source that the hæmorrhage occurred which produced the extravasation; but the fatal hæmorrhage was caused by sloughing through of the coats of the common carotid artery, the result of injury received in the transit of the missile. The numbness of the arm and hand was explained by the pressure of the bullet upon one of the branches of the cervical nerves.

The tongue, larynx, and œsophagus were exhibited, giving evidences of extensive submucous infiltration.

The specimen was interesting in several points of view, but particularly with reference to the illustration which it afforded of the want of reliability in the course which a probe may take when there has been extensive extravasation.

#### FIBRO-RECURRENT TUMOR.

DR. SANDS exhibited a fibro-recurrent tumor, the size of an English walnut, which had been removed from the cheek of a child twelve years of age. The disease first began to make its appearance about two years ago; it grew gradually without giving pain, and although affecting the general health, there was no lymphatic enlargement. The tumor had a somewhat pyriform shape, cut hard, was of a mottled red and white color, and yielded on section a juice which was suspended in water. Yet, notwithstanding its gross appearances, it gave all the characteristics under the microscope of a fibro-recurrent tumor; there were seen elongated, fusiform, and caudate cells, with nuclei and minute nucleoli, together with free nuclei and nucleated nuclei. There was also a stroma of a fibrous tissue.

#### INTRA-UTERINE TUMOR.

DR. SANDS presented a second specimen for which he was indebted to Dr. Livingston. It consisted of an intra-uterine tumor removed by post-mortem examination from a patient forty-five years, married, and the mother of several children, the youngest child being twelve years of age. When the patient first consulted Dr. Livingston she complained of a serous discharge. She was examined by Dr. Livingston, who recognised the existence of a tumor within the uterus. The examination was conducted by means of the uterine sound, but the size of the tumor was not estimated. The menstrual function had always been

well performed, and there had been no hæmorrhages previous to that time. The woman passed from under the notice of Dr. Livingston until a few months ago. She was then very much emaciated, having just recovered from a severe hæmorrhage, which she had suffered from a month or two previous. She finally died of exhaustion.

On making the autopsy he discovered the tumor situated in the interior of the womb, having a very extensive attachment to the fundus and anterior wall of the organ. The growth had so much distended the uterus as to give the appearance as if in the fifth month of pregnancy. The mass was covered throughout its whole extent by mucous membrane. Dr. Sands thought that the question of removal might come up in this case, and be entitled to very serious consideration.

DR. POST remarked that Dr. Atlee, in his Prize Essay on uterine tumors, speaks of a variety of tumors within the uterus similar to the one presented, in which he succeeded in nucleating.

DR. VOSS had seen Dieffenbach remove an intra-uterine tumor, weighing seven pounds, by means of a curved scissors.

DR. MARKOW remarked, that the specimen was a very interesting one in reference to the question of removal. He stated that tumors within the uterus were divided into classes:—1st, Those partly within the uterus, and partly without, and, 2d, Those wholly within the organ. In the first class removal was possible by means of incision through the vagina. Operations of that sort were not unfrequent, but the removal of tumors of the second class, though occasionally reported in the foreign journals, was very rarely performed in this country. He had a case of the sort in a lady who had borne several children, and whose menstruation had gradually grown more and more profuse, until it had amounted to alarming hæmorrhages. On examination a tumor was found attached to the posterior surface of the organ, and after dilating the os sufficiently to get at the mass the Doctor concluded to attempt its removal. After failing with several instruments to accomplish the purpose he resorted to his finger, and enucleated the mass piecemeal. The result was a perfectly satisfactory one. She did perfectly well for eighteen months, when, however, other tumors developed, and increasing, have crowded the organ up into the abdomen. In consequence of the situation of the organ she is now troubled no more with hæmorrhages. The tumor removed was about the size of the one presented by Dr. Sands.

DR. POST stated that Dr. Atlee recommended in cases of uterine tumors, attended with hæmorrhage, an incision upon their surfaces.

The Society then adjourned.

IN the last number of the *Social Science Review*, Dr. Richardson calls attention to the "Greek fire," lately brought into especial notice through the siege of Charleston: "The construction of modern 'liquid fire,'" he says, "is based on simple scientific principles. I think that it might be so formed that it would actually burn under water. The principle is this: a rapidly oxidisable substance is suspended for a time through a liquid, in which it is held innocuous so long as the two are confined together, but from which it is separated spontaneously when both are set free in the open air. The modern chemist who first brought liquid fire into notice was Mr. Wentworth Scott. Mr. Scott suggested the principle about eleven years ago, and during the Russian war he was untiring in his efforts to get it into use in our army and navy. An official board received Mr. Scott, heard his plans, nibbled at his idea, and then repudiated it. After tantalising Mr. Scott, our circumlocutionists became acquainted with another gentleman who proposed a liquid fire, but who, I believe, in the end was gently dropped also—I mean Captain Disney. At last, that which the English nation, or rather Government, refused to study as a means of warfare, has been turned to practical account in America.—*British Jour.*



# American Medical Times.

SATURDAY, OCTOBER 24, 1863.

## EFFICIENCY OF THE ARMY SURGEON.

THE medical staff of our volunteer army has been subjected to much scandal and harsh and unjust censure for alleged incompetency. It has, in truth, become popular to talk disparagingly of the army surgeon, and sweeping denunciations are made against the entire staff on account of the reprehensible conduct of individual members. It is rare, even in our own profession, that the position of the volunteer surgeon before and after entering the army is correctly appreciated. In an address before the Albany County Medical Society, Dr. S. OAKLEY VANDERPOEL, late Surgeon-General of this State, has given his large experience in relation to the qualifications of surgeons, and of the manner in which they have performed their duties. We shall be pardoned for quoting freely from this interesting address, which has not been published. Dr. V. speaks with authority upon the subjects which he touches, for few have been brought in contact with a larger number of volunteer surgeons.

He discusses the duties of army surgeons under the following heads, viz. 1st, as hygienists; 2d, as physicians; 3d, as surgeons. He remarks that the mass of the community, indeed the mass of physicians, limit the province of medical men to simply *caring for the sick*; with convalescence their responsibility and labor cease. It is comparatively of recent date when that higher element has been distinctly recognised and studied—the prevention of the causes of disease, and their removal from those in health. Nor is it strange the former idea should be the one prominent. The great mass of medical men who have entered the military service are necessarily from the country or from small communities. A man living among rich fields, wooded hills, and running streams, has little cause to study and avert those thousand poisonous influences which beset at once an aggregation of individuals; and the physician practising in such a community would hardly know of hygiene and its laws, except as by curiosity he might read of it in the literature of the day.

He states that no report has come to him more frequently than the following:—A camp is formed in which are rapidly congregated from five hundred to a thousand men. They come in, individually hardy and robust; their bronzed countenances, brawny arms, and stalwart forms mark them as the finest type of physical development. The surgeon, perhaps excited, and it may be bewildered by the novelty of his position and duties, is surprised after a while to find that men who presented themselves only a short time previous as recruits in the full vigor of health, are attacked one after another by some zymotic agency; his little hospital is soon filled, additional accommodations are sought, and he is most assiduous in his care upon the sick. He exercises an enlightened judgment, skilful practice, and yet his sick recover slowly, the mortality is large, and the numbers on the increase. The officers and men lose confidence in him, and the mortality is pointed to as an evidence of incompetency; the surgeon was clearly at fault. It did not occur to him that the close,

warm barracks, in which the men are packed closely as bees, in the construction of which but one idea has prevailed, how best to keep *out the air*, was the silent, wary poisoner of his men; that their aggregation in quarters far too limited for the number, without the least provision for ventilation, indeed with every obstacle to prevent it, the confined exhalations of the men, the want of cleanliness in persons and quarters, the change of diet, the irregular habits at once contracted; all matters which fall under his direct province, and concerning which, if he had been fully conversant, very much of his subsequent troubles would have been averted.

Or follow the men in their first essay at camp-life, From the necessities of the service they camp on a level spot, without natural drainage, in a wet season. The tents are pitched with symmetrical precision, the military arrangements seem all perfected, and yet the men suffer exceedingly, and sickness is rapidly developed in the camp. *Diarrhæa*, a word more frequently in the mouth of the soldier than any other, is prevalent. The surgeon, judicious in his mere medical prescriptions, exhausts the *ars medicinæ* in vain. Still is it persistent, still are the numbers increasing. Here again he is at fault, in the simplest rules of hygiene.

Due attention has not been given to the first requisite—the proper drainage of each tent and street; the latrines have been located indifferently, more with an eye to convenience than the absolute necessity of locality, nor has proper attention been paid to throwing on earth day by day; the garbage and refuse of the camp are not systematically carried off and destroyed; more than all, the first essays of men wholly unsophisticated in the principles of cooking, have given to the men food totally unfit and indigestible.

A very little preliminary care would have prevented all. He had but to impress upon the officers the essential need of attention to the externals of the camp, to have taken a half hour each day and instruct the detail of cooks that their method of cooking could hardly be worse, that the effort to do it speedily would entail serious consequences, and much would be remedied. It is easy to make the hardest junk or the saltiest pork palatable, and to change the beans from bullets, as they are half the time served, to soft, nutritious food. If our surgeons, as a class, have come short in anything, it is in their knowledge and application of the laws of hygiene.

As physicians, they have proved themselves equal to the emergency. Most of the diseases of camp life, while severe in character, are comparatively simple in diagnosis and treatment. If the surgeon be but faithful and devoted he soon acquires the knowledge requisite for intelligent and proper treatment.

As surgeons, though they have fallen short of the standard necessary for a thorough and true performance of their duties, they have exhibited as high a standard of proficiency as the previous experience and opportunities would warrant.

Operative surgery is purely a practical art. He who becomes at all proficient must be engaged in its daily practice and be constantly exercised in its manipulation. The utmost precision in anatomical details, while of primary importance, will not alone render the operator skilful. He wants the cool head, steady hand, and confident assurance which daily exercise can alone confer. True, these are not

all the qualities that constitute the true surgeon, for there is a true philosophy to the art—a philosophy which only close study, careful observation, and a ripened experience can confer. In no department of surgery is this more essential, and yet, from the very necessities of the case, are the data more conflicting—so many extraneous influences arise—influences so foreign to the patient in private practice or general hospital, that deductions derived from data gathered there are wholly irreconcilable with experience upon the field. It is but right, therefore, that proper allowance should be made for any shortcomings of our army surgeons. Special study and experience are absolutely necessary before the surgeon can perform his duty properly.

This kindly appreciation of the difficulties under which the medical staff of the volunteer army has labored, will be grateful to the individual members. Heretofore they have received only censure, and that often of the most unjust and cruel kind. We do not doubt that impartial history will be as lenient in its judgment as the late Surgeon-General.

### THE WEEK.

A Correspondent of the *London Medical Times and Gazette*, writing from the Army of the Potomac, makes the following statement in regard to the system of operating after each battle:—

"Previous to that time (battle of Antietam), it was the duty of the senior medical officer of a regiment to decide upon all the cases occurring in his command, and should his decision be operation, to operate; but the evils arising from this licence, this want of supervision, became plainly apparent, and to prevent in a great measure in future ill-timed, ill-judged, and badly-executed interference, a staff of officers in whom confidence could be placed was commissioned, in the event of a battle, to examine, decide, and operate, the duty of the others being restricted simply to dressing. That this plan works admirably the experiences of Fredericksburg, Chancellorsville, and Gettysburg have fully demonstrated. Not only do the patients receive the best Professional skill which the division can afford, but the Surgical history of the battle is better preserved. One officer in the Hospital does nothing but record in full the histories of the various cases, whereas formerly every regiment had a record to hand in, although every one did not furnish it. Some surgeons, through ignorance of the routine of military duty, and others through neglect, did not comply. It is not unusual also for papers in the field to get lost during their transmission from one official to another."

LONDON has been visited by an epidemic of small-pox, of great severity. It has now declined, but it has left a fearful record of its power. The *British Med. Journal* says:—

"It reached its climax in the month of May, the number of deaths for the week ending May 9th being 71, and for the four weeks ending May 30th, 268. The number of deaths for each of the four weeks of August was 49, 45, 39, and 31; the total for the four weeks being 164. For the first two weeks of September the numbers have been only 29 and 28. It is to be observed, however, that the disease is still far above its ordinary prevalence; and that the number of deaths increased considerably after the week ending July 25th, when it was only 34, and when the Registrar-General stated that there was 'reason to hope that the further spread of the small-pox in the metropolis had been checked.' Some idea as to the extent of the present epidemic may be gathered from the following facts:—'In 1861, the number of deaths from small-pox registered for the entire year was only 217; whereas the number for the

first eight months of the present year has been no less than 1600."

THE Medical Colleges of this city have commenced their annual session. There is a considerable increase in the aggregate number of Students in attendance, showing a strong tendency to concentration of medical teaching in New York. As would be anticipated, the Schools that offer the best facilities for clinical instruction, attract the larger number of students. But few changes have been made in the schools during the past year. In the College of Physicians and Surgeons, DR. THOMAS has been appointed Adjunct Professor of Obstetrics; PROF. BUDD takes the place of PROF. BEDFORD, in the University Medical College; PROF. CARNOCHAN has retired from the N. Y. Medical College.

## Reviews.

RELATIONS OF THE WAR TO MEDICAL SCIENCE.—The Annual Address delivered before the Westchester County [N. Y.] Medical Society, June 16th, 1863, by J. FOSTER JENKINS, M.D., President of the Society. New York: Baillière Brothers, Publishers, 1863. pp. 16.

IN this interesting address DR. JENKINS sets forth the labors of the Sanitary Commission with great vigor and truth. As an Associate Secretary of the Commission he has had large opportunities to become familiar with all its operations, and to trace the influence of its service upon the country and upon our profession. He says:—

"The Sanitary Commission appeals strongly to the approval of medical men, in that it has so steadily, from the inception of its trust, inculcated the importance of the observance of the laws of hygiene. Recognising from the beginning of its career the great truth that preventive medicine out-ranks in importance both alleviative and restorative processes, it has steadily promulgated it, in many publications, and by the urgent voices of its medical officers. 'A Treatise on Hygiene and Therapeutics,' by two eminent members of the New York Academy of Medicine; a compilation of 'Rules for Preserving the Health of the Soldier;' a monograph containing the conclusive evidence of the prophylactic virtue of the sulphate of quinine in warding off miasmatic disease; a tract of advice on camping; another on the value of vaccination to armies—are specimens of what it has attempted through the press. These have been circulated to the extent of many thousand copies by the Commission's agents, to medical and military officers, to non-commissioned officers and privates. Meeting the requirements of its charter from the President of the United States, which constituted it a 'Commission of Inquiry and Advice in Respect to the United States Forces,' it has in all our armies set on foot a series of inquiries almost exhaustive in their range, touching the many relations of hygienic law to life in camp, in bivouac, and on the march. These pertain to the character of the camp-site; the arrangement, drainage, and cleanliness of the camp; the character, ventilation, and arrangement of the tents; the bedding and clothing of the men; their personal cleanliness; the quality and source of the water; the character and abundance of the food, and the manner of cooking it; the recreations and discipline of the men; the provision of the camp hospital; the sickness and mortality existing, or recent, etc., to every condition, in short, that has an ascertained influence on the health of men in armies.

"These inquiries are made, and the facts sought for are gathered, by medical men, selected for their intelligent familiarity with the applications of hygienic laws, their tact, and their qualification for independent observation, so that their eyes and ears, and the inferior organs even of taste and smell, may correct and modify inaccurate, partial, or wilfully false statements of careless or reluctant informants."

The preparation of monographs on special subjects was an important work:—

"The Commission has called into its service, or, rather, has

claimed the service for humanity, of distinguished medical scholars and writers, for the preparation of practical monographs on the diseases, or surgical injuries most liable to arise amid the vicissitudes of war. The names of Flint, and Metcalfe, and Mott, and of the present Surgeon-General of the United States army, Brigadier-General Hammond, assure you that work intrusted to such men is not feebly performed. The sixteen monographs already printed have received a wide circulation in the army, and, besides their immediate benefit, can hardly fail, in due time, of a reflex influence on public health."

Another and perhaps still more important enterprise undertaken by the Commission was hospital inspection:—

"Another method in which the Commission is applying its resources to promote a knowledge of applied science, is by sending to each of the United States general military hospitals in the country, a surgeon or physician of recognised distinction, and wide experience in hospital management, who has had practical acquaintance with the needs and the deficiencies of hospital construction, who is familiar, as with his alphabet, with the conditions which invite disease or prolong convalescence, whether pertaining to construction and interior arrangement of the buildings, to the regimen or professional treatment of the patients, or to external circumstances, as the vicinage of swampy grounds or the neighboring nuisances of a populous suburb. You receive the names of Bowditch, and Buck, and Draper, and Post, and Reid, fallen, alas! at the post of duty, as those of experts whose judgment must be influential with the chief of the medical bureau, could he avail himself of it. It was on consultation with Surgeon-General Hammond, and by his advice, that this corps was engaged, six being kept in the field, successively, east, west, and south, and their reports, or the portions of them calling for remedial action or making recommendations, are by the chief of the corps, Dr. H. G. Clark, well known as a scientific sanitarian, transmitted in confidence to him. This inspection will prove of advantage not only to the occupants of the ninety thousand beds in the hospitals thus visited, in effecting improvements in hospital architecture and management, but by the final publication of such portions of the reports as may properly be given to the public, new light may be thrown on many points of hospital economy, and fresh illustrations be supplied of the laws of sanitary science."

He thus alludes to the reform of the Medical Bureau effected principally by the Commission:—

"When the war began, the requirements of law provided that the senior surgeon of the army should be the Surgeon-General, an arrangement that was liable to result in placing at that post an officer whose chief qualification for its varied duties of large responsibility was a good constitution carefully preserved. There was no bureau of medical inspection established by law, nor any legal requirement in this corps for its maintenance. There was little incentive, aside from natural taste, considerations of pride or conscientious impulse, to professional improvement, or especially zealous devotion to duty. Promotion, being by seniority of service, could not follow as a result of high qualification, nor, after the junior officer had passed his examination for a surgeoncy at the end of five years' service, was it retarded by incompetence or sloth. The tendencies of the system repressed the promptings of professional ambition, and favored contentment in the dry path of old routine."

"It was no merit of the *system* that so many medical officers rose above its debilitating influences, and made for themselves and for their corps a reputation going far to justify, by scientific attainments, as well as by manly and honorable bearing, the designation I once heard applied to them by an officer of another staff—the '*corps d'élite* of the army.' The commission felt that such a system was inadequate to the demands of the country—that the highest talent and the most interested devotion should be given to the discharge of the multifarious duties of the medical bureau. It urged its views upon the President, the Secretary of War, and upon Congress, and brought to bear on legislators, the organized sentiment of thoughtful men throughout the country. It met the objections of Prescription and Routine, and pointed out a more excellent way than ever their feet had trodden. By the influence of Public Opinion, moulded and organized and directed by the Commission, it is not too much to say, Congress, in April, 1862, passed a bill which, approved by the President, became law on the 16th of that month, and which introduced new features of the greatest value into the organization of the medical bureau."

"Besides increasing the number of officers in the lower grades, it added an Assistant Surgeon-General and a Medical Inspector-General, with the rank of colonel respectively, eight Medical Inspectors, ranking as lieutenant-colonels, and provided that these officers—as well as the Surgeon-General, who ranks as a brigadier-general—should be hereafter *selected* for merit and eminent qualification from the whole number of medical officers in service, whether of the regular or volunteer army."

"This is the first instance, so far as I am aware, in which legislation inspired the ambition of members of the medical staff, by associating their efficiency with the rewards of a laudable ambition. The assistant surgeon, ranking as lieutenant, could heretofore only expect to attain a captain's rank at the end of five years. Five to seven years more found him enjoying a surgeoncy, with a major's dignity, and there he felt that he must abide during his whole army life, as few men could rationally dream of surviving to a septuagenarian enjoyment of the only colonelcy, when he should become the senior surgeon and so Surgeon-General."

"A striking illustration of what was to be expected from the new law was given nine days later, when the President commissioned Assistant Surgeon William A. Hammond to be Surgeon-General of the army. It is well known, I believe, that the Sanitary Commission urged this appointment, but not on personal grounds, for only one of its members had ever seen him when their decision was reached that this would be the best appointment possible. But they presented his claims to the President and Cabinet, from his well-known devotion to science, his energy and executive ability, his comprehensive view of the great questions sure to arise in the administration of his office, and his evident readiness to meet boldly great responsibilities. His administration has justified the selection. He has introduced liberality and promptness into the purveying department of the bureau. He has greatly enlarged the supply table; has substituted for old hotels and seminaries, airy and ample hospital buildings, conformable to improved architectural models; has raised, by providing more rigid examinations, the scientific standard for admission into the army medical service; has sought legislation to enlarge the hospital fund, to improve the system of nursing, to provide for more extended inspection of camps, barracks, hospitals, transports, and stores; to establish a legalized and humane system of ambulance, and to render, by other enactments, the corps more efficient and the system more complete."

"By these efforts, by the just exercise of discipline, by his encouragement to scientific investigation, his fostering of army medical societies, his establishment of a museum of pathology, and his detail of accomplished members of the medical staff, to write the medical and surgical history of the war, he has kindled afresh, in the medical service, a zeal and an *esprit-du-corps* which can hardly fail to reach an enthusiasm noble in its aims, and, to scientific progress, fertile in result. It is barely a year since the medical bureau was fully re-organized by the President's appointment, and their confirmation by the Senate, of the corps of Medical Inspectors, the prime helpers of its Chief in securing an exact knowledge of the field before him. But the experience of this year indicates the increasing gain likely to accrue to science from this measure of reform. For, under such guidance, reform is not likely to go backward. Let us thank God and take courage."

THE annual meeting of the Vermont Medical Society was announced to be held at Montpelier on the 14th and 15th of October.

**CORRECTION.**—It was erroneously stated in the MEDICAL TIMES of Aug. 27th, that Dr. G. W. Varnum was in charge of the 15th Army Corps Hospital, at Vicksburg. Dr. C. McDonnell, U.S.V., organized this hospital, and has continued in charge to the present time.

**PRESENTATION TO DR. W. W. STREW, U.S.V.**—Dr. Strew, formerly of Oyster Bay, L. I., but now a Surgeon of Volunteers, in charge of the U.S. Army General Hospital, No. 11, Louisville, Ky., recently received from the officers of that hospital a valuable testimonial, consisting of a beautiful set of silver plate, a magnificent pitcher, two goblets, and a salver.

## Correspondence.

### IMPORTANCE OF PRELIMINARY EXAMINATIONS IN MEDICAL SCHOOLS.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—Your article in the *Times* of August 28, touches upon a subject of vital significance to the profession. You there suggest the importance of insisting upon an examination in the primary studies at least, preparatory to admission to our medical colleges.

Now, this idea at first may strike some as exceedingly chimerical, if not unreasonable. But, if we look at the actual status of the majority of the students in our medical schools, and compare it with what we all feel should be the standard, both for student and practitioner, we cannot fail to see that the good of the profession cries loudly for a reform.

And first of all, it is an undeniable fact that there are fewer graduates of colleges among the students of medicine than among the members of our law schools and theological seminaries.

In looking over the catalogues of two of our most prominent schools, I found that the proportion of graduates of colleges was only about one in five—a small ratio surely, making then the exception, and not the rule. Among theological students the rule is reversed. The non-graduates are the exception, and marked as such. And among the students of law, both in schools and offices, the proportion of educated men is far greater than among the students of medicine. Moreover, it is a fact, verified by all who have had opportunities of judging, that out of the five hundred that annually step forth from our New England colleges, not one in ten enters upon the study of medicine. Such, then, being the facts, is it not evident that many of the attendants of the lectures must be deficient in the essential preparation for thorough and successful study? Let me not be understood as deifying a college diploma. A pound of brains is worth a ton of parchment. It is true that our land contains no greater dunces than many that are annually crowned with laurel and degree. But still the eternal fact stands forth that, other things being equal, the difference between one man and another is the difference of opportunity. And the remark applies with peculiar force to the medical profession. Even Dr. John Brown, in his *Horæ Subsecivæ*, while contending for the superiority of what he terms "*The With Brains*, sir," over education and culture, still asserts that a physician must be *capax* as well as *sagax*—capable of scholarship as well as sagacious in observation and discernment.

Education cannot create or confer creative power, but is an accession to that power. The physician needs genius and heart, but he needs more. He must have power of acquisition and love of labor. Unless he have the two last combined with the former, he ought never to deal with the minds, bodies, and souls of men.

Genius, combined with heart, unassisted by scholarship, may make an eloquent pulpit orator, and the history of the church glens with bright examples. But medical biography affords no instances of any men who, by mere force of intuition alone, have become pillars or standards in science. Asclepiades, Paracelsus, and Chamberlin, the inventor of the forceps, were really brilliant men, and made startling innovations; but the fathers of medicine, Hippocrates, Galen, Sydenham, and Rush, were well-read, universally educated men. It is essentially a progressive science, and all that the most original mind can do is to add his own few mites to the accumulations of the centuries. For this reason, and then, the fact of so great a number of uneducated among our schools, there should be a system of examination on the essential preparatory studies.

It should not be such as to require the routine of a college course; but it should be such as to require careful and thorough study somehow, either alone or under instructors. Some of our ablest leaders in every department of thought and action have never seen the walls of a college, but hard and long they have toiled for themselves to complement their deficiencies of opportunity.

Again, such a system as here proposed would add dignity to the profession. At present your remark, "he is only fit to be a doctor," is only too truthful a statement of the popular expression. Ought this so to be? Viewed in its largest, highest, wholest scope, there can be no more noble profession than that of a physician. The pill and powder, the scalpel and bistoury, should be merely tools of the character behind them. The soul that lies deep within man is of more importance at the bedside than the technical knowledge of formalities. What practitioner has not noted with surprise often that remedies succeed in some hands that often fail utterly, administered by others? May not the reason of this difference of result, sometimes at least, be traced to the unconscious and impalpable moral influence that proceeds like the invisible electric current from the heart and mind through every word, look, gesture, or operation?

One thing is seen, the literary standard of our profession can be and *must* be brought up to a level with law and theology. It is already so in Germany. Yet in our land the impression remains, both among the masses and men of letters, that medicine is only a city of refuge for the renegades from every other profession, and that for an embryo-physician to devote his strength and time to miscellaneous and literary culture is to cast his rich pearls before swine. How erroneous, and yet how prevalent, is this idea! But can we blame communities for thinking thus, when a glance at our lecture rooms tells us that they must be half right in their impressions? But this is not all. Not only do uneducated men, and those whom poor scholarship or godless lives have ostracised from final graduation at our institutions of learning, feel free to enter upon the solemn pursuit of medicine; but even of those who enter with diploma in hand, very few indeed are men of the first literary ability, at least, to say nothing of their moral character. Law and theology monopolize the talent of our colleges. From extended observation I am prepared to assert that not one in fifty of the graduates of our New England colleges, and who become students of medicine, are men who were the intellectual leaders of their classes.

These facts all point one way. They show vividly the necessity of a thorough preliminary examination, such as you suggested, to give the profession the exalted name and place it deserves. Such a system of examination would exclude or stimulate those who hitherto have jumped from the unimproved district school to the medical lecture-room. It would exclude the worthless cast-offs of our colleges, those sapless leaves that fall to the earth, and are continually blown into our ranks. It would exclude even the diploma, if only ignorance and indolence were behind it.

May the bright day hasten when faculties shall dare to stand before the doors of their schools, armed with a clear, impartial examination, to repel the entrance of recklessness, immorality, and stupidity. And then every ambitious and intellectual youth can feel that in this most sacred calling he may find full scope for all the literary culture, all the scholarly attainments, all the familiarity with human nature, all the iron energy and wealth of feeling that give to character everywhere its power and beauty.

G. M. B.

### WHAT IS HIS DINNER HOUR?

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—The following extract from a weekly religious paper is so truthful and suggestive that I beg you to insert it in the *AMERICAN MEDICAL TIMES*. It is rare to find a layman

who so thoroughly understands the little annoyances to which medical men are subjected.

What question is oftener asked of any in life? "What's his dinner hour?" Men may indeed say: "How d'y'e do?" But that is a salutation; half the time we do not care whether it is answered or not. This is a question to which we expect an answer: "Is Mr. Blank in?" "No." "Is Dr. Good at home?" "No." "What's his dinner hour?"

Now, my friend, what is the motive for asking this question? Do you expect to dine with him? Oh no—you only want to see him. If you wanted an invitation to dinner, you would take a less direct way, but you want to see him. If the servant is green enough, he will tell you his dinner hour; and so when the weary man comes home from his business or his round of practice, perhaps hurrying lest he should be late, his dinner on the table, wife and children waiting, there you lie in wait like a spider for your victim. "Just a moment, I only want five minutes' talk with you." Who ever finished a talk in five minutes? It grows to ten, he rises, another five, the family have begun their dinner, or sit waiting and indignant. What is a dinner after it has stood on the table fifteen minutes?

"Just one minute more, Doctor." If a man says one minute, always multiply it by ten. At last he gets rid of you, and he is a saint if he does not follow you with a very left-handed blessing.

"Ah!" you say, "what a stir, merely because a man's dinner is put off, just once." Yes, that's it, "just once." Why, friend, remember that what you do to-day some one else will do to-morrow, and so it becomes a thing of daily occurrence. It is no small thing to spoil a man's dinner every day, to trouble his temper; it is really a matter of health and of principle; for when a man has worked hard he needs repose, and digestion is better with a quiet mind.

And what did you want? "Oh, his help about a situation for my son," or his opinion about a certain investment; or, if he be a physician, a professional opinion? Why not go then to his office at the proper time? "Oh, he is so busy then, I always have to wait." So then the whole thing resolves itself into selfishness, you want a favor, and in addition, though you could see him at a time he fixes, you prefer to sacrifice his convenience to your own, and so you ask: "What's his dinner hour?"

"But I expect to pay him." My friend, does money pay for such annoyances, and do you give any extra compensation for loss of temper and much vexation? I never heard of it. "But my time is valuable." It may be; but a man who is really busy, and values his time and is systematic, will appreciate the convenience of others, and not trespass on their rights. Busy! what were you doing the next morning, when he was ready to see you at his office? I saw you lounge for half an hour and smoke a cigar at your leisure. You were not going to have your comfort disturbed, and you spent another half hour later, in very unnecessary gossip with Mr. B. at his office: I saw you; but you were in a furious hurry soon after, and all for want of those two half hours.

Oh! for the Law of Consideration. If your business be for his advantage, he has a right to choose his own time or reject it; if you want him to do you a favor, you certainly are bound to consult his convenience. What is the Golden Rule? Answering that, your next question will not be: "What's his dinner hour?"

## Army Medical Intelligence.

(CIRCULAR NO. 22.)

SURGEON-GENERAL'S OFFICE,  
WASHINGTON CITY, Oct. 10, 1868.

The following letter from the Provost Marshal-General is published for the information of the medical officers of the army:

"WAR DEPARTMENT, PROVOST MARSHAL-GENERAL'S OFFICE,  
WASHINGTON, D. C., Oct. 9, 1868.

"COLONEL:—I have the honor to return the enclosed communication from Medical Inspector Cuyler, and beg leave to state that the surgeons in charge of hospitals are directed in Paragraph VI., General Order No. 212, to forward to this Bureau rolls of all men reported by them for transfer to Invalid Corps, after each regular muster. Immediately on the receipt of these rolls in this Bureau, the Acting Assistant Provost Marshal-General of the State in which the hospital is located, is notified to receive the men whose names are on the rolls, and assign them to companies in the battalion to which they are reported to belong by the surgeon. Should any of the men recommended by him (the surgeon) for the second battalion be needed in the hospital for nurses, cooks, etc., they will be at once assigned to such duty. Full companies can be organized in hospitals where their services are needed, and officers will be assigned to command them, and will clothe, arm, and equip the men.

"Where no companies exist in a State from which rolls are received from a surgeon, then the Provost Marshal of the State is ordered to receive the men and hold them as a nucleus for the formation of a company.

"The names of the men thus reported are published in a General Order, which completes their transfer to the corps. The necessity for subsisting the men must necessarily exist until an officer is assigned to command them, when provisions will be drawn on a regular Company Return by that officer.

"As the number of officers of the corps is limited, and by no means adequate to its requirements at present, it is confidently expected that the surgeons will accord to us that patience and forbearance which we are led to expect from the great courtesy and hearty co-operation with which they have already favored the corps.

"I am, very respectfully,

"Your obedient servant,

"JAMES B. FRY,

"Provost Marshal-General.

"COLONEL BARNES,

"Acting Surgeon-General, U.S.A."

By order of the Acting Surgeon-General:

C. H. CRANE,  
Surgeon, U.S.A.

### ORDERS, CHANGES, &c.

Assistant-Surgeon L. J. Comstock, 155th New York Vols., on detached duty at Harewood Hospital, Washington, D. C., has been ordered to join his regiment.

Surgeon Henry James, U.S.V., has been ordered to remove all the sick and wounded, able to travel, from the General Hospitals at Gettysburg, Penn., for Baltimore, Md., between the 20th inst. and 6th prox. Sick and wounded who are not fit to be removed, will be placed in charge of competent medical officers in the town of Gettysburg. Having performed this duty Surgeon James will report in person to the Surgeon-General.

The resignations of the following named medical officers have been accepted by the President, to take effect the days specified:—

Surgeon James W. Fitzpatrick, October 11, 1868.

Assistant-Surgeon E. Dodd, October 18, 1868.

" F. T. Dade, October 14, 1868.

" R. J. Lewis, October 14, 1868.

The commanding General, Department of the East, has been authorized to remove the sick and wounded prisoners at David's Island, New York harbor, to one of the smaller hospitals on Bedloe's Island, and to transfer the patients in hospital at Fort Schuyler to David's Island, The Fort Schuyler Hospital to be discontinued, and the buildings removed.

Assistant-Surgeon W. C. Spencer, U.S.A., has been relieved from duty in the Department of the Gulf, and will repair without delay to Washington, D. C., and relieve Assistant-Surgeon E. S. Dunster, U.S.A., now on duty in the Surgeon-General's Office.

Assistant-Surgeon E. S. Dunster, U.S.A., now on duty in the Surgeon-General's Office, on being relieved by Assistant-Surgeon W. C. Spencer, will proceed at once to West Point, N. Y., and relieve Assistant-Surgeon H. L. Sheldon, U.S.A., now on duty at the place.

Assistant-Surgeon H. L. Sheldon, U.S.A., now on duty at West Point, N. Y., on being relieved by Assistant-Surgeon E. S. Dunster, U.S.A., will report in person without delay to the Major-General commanding Department of the Gulf, for duty.

Surgeon R. H. Gilbert, U.S.V., is hereby relieved from duty with the Army of the Potomac, and will repair without delay to Philadelphia, Pa., and report in person to Surgeon John Campbell, U.S.A., Medical Director, Department of the Susquehanna, for duty.

# Original Lectures.

## LECTURES ON THE MORBID CONDITIONS OF THE BLOOD.

DELIVERED AT  
THE BELLEVUE HOSPITAL MEDICAL COLLEGE.

PRELIMINARY TERM, SESSION OF 1868-4.

By AUSTIN FLINT, M.D.,

PROF. OF THE PRINCIPLES AND PRACTICE OF MEDICINE.

### LECTURE II.

*Anæmia continued.—Changes as regards the Conformation and Composition of the Globules.—Apnoea. Of the White Globules of the Blood.—Leucocythæmia.*

GENTLEMEN:—The diagnostic criteria of anæmia are, *First*, deficiency of the normal coloration of the surface, due to the coloring principle which belongs to the hæmatine in the red globules. The defective color, or pallor, is most manifest on the face and especially the prolabia; it is also apparent on the inner surface of the mouth and on the tongue. *Second*, weakness of the vital organs, such as observation shows to be a consequence of paucity of the red globules. *Third*, more or less of the phenomena pertaining to the nervous system, which have been mentioned. *Fourth*, the presence, frequently, of obvious adequate causes, such as loss of blood, lactation, frequent child-bearing; or of the affections to the natural history of which anæmia belongs. *Fifth*, the microscopic appearance of the blood, the red globules appearing to be fewer than in health. *Sixth*, the evidence afforded by a quantitative analysis; but this is too difficult to be available for ordinary clinical purposes.

To the foregoing is to be added a physical sign which, when present, is found to be associated generally with anæmia, viz. a bellows murmur at the base of the heart and in the larger arteries, the carotid, subclavian, etc. This murmur accompanies the first or systolic sound of the heart, and is usually soft. To constitute evidence of anæmia, there must be wanting the signs of organic lesions of the heart and large vessels. In conjunction with this murmur, in certain cases, a continuous murmuring sound, sometimes musical, is heard when the stethoscope is applied over the neck, especially on the right side, due to the movement of the blood in the veins, called the venous hum, or, after the French, the *bruit de Diable*. These murmurs are distinguished from those denoting lesions, asinorganic or anæmic murmurs. They are by no means present in all cases of anæmia; in fact, they are oftener wanting than present. Their absence, therefore, affords no proof that anæmia does not exist, but, when present, they denote a blood-change into which paucity of the red globules enters.

With reference to therapeutics, anæmia constitutes a special indication for treatment when it occurs independently of other affections, or when it is associated, as a prior and causative morbid condition, with disorders of the nervous system. When it is an element of other affections, it contributes, in a greater or less degree, to their pathological effects, and claims a certain share of attention. When it exists alone or with disorders to which it has given rise, it is generally a remediable condition; but it is otherwise when associated with such affections as tuberculosis, carcinoma, Bright's disease, etc. When it is the chief condition to be met therapeutically, the first points are to ascertain and remove, if practicable, the cause or causes on which it depends. The next point is to employ measures to restore the normal quantity of red globules. These measures consist of, *first*, a nutritious alimentation, into which meat should enter largely; *second*, the use of tonics and stimulants to render the digestive functions more active; *third*, iron as a special remedy, the effect of which is often remarkable; and, *fourth*, a regimen calculated to increase the energy of the assimilative functions, consisting of exercise

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in the open air, recreation, etc. These different measures are, of course, to be combined. As the anæmic condition may coexist with any disease, in other words, as persons affected with anæmia may contract a variety of diseases, its existence, or otherwise, is always to be considered, and its coincidence with different diseases may modify materially their treatment. Bloodletting and other measures which tend to impoverish the blood, as a rule, are injudicious, whatever may be the disease, if it occur in an anæmic subject. And measures addressed to the anæmia may be called for in certain cases of disease, when, occurring in a person not anæmic, or plethoric, the same disease might claim measures of a quite different character.

When simple anæmia exists, and the cause producing it has ceased, as after a hæmorrhage, the reproduction of red globules under efficient measures of treatment is rapid. Robin says, after bleeding an animal largely, the return of globules may be almost observed from hour to hour. Simon states that in the case of a chlorotic girl analysis of the blood gave of globulin, in a thousand parts, 30.860, and of hæmatin 1.431. In seven weeks, during which period she had taken two ounces of the tincture of iron and sixty-four grains of the metal, the proportion of globulin had increased to 90.810, of hæmatin to 4.598. "Before she was pale and her lips colorless; now she presented really a blooming appearance." In two cases given by Andral and Gavarret the red globules were increased under the use of iron, in one case from 46 to 97 in a thousand parts in four weeks, and in the other case from 49 to 64 in three weeks. Pure anæmia, with our present knowledge of tonic and analeptic medication, affords an excellent opportunity to display the resources of medical art.

Of the manner in which the causes of anæmia, exclusive of hæmorrhage, occasion diminution of the red globules, all that can be said, with our present knowledge, is, that they generally appear to act by impairing the *liquor sanguinis*. Further than this the pathologist cannot go until the physiologist explains how the red globules are formed from the elements of the blood-plasma in health.

Anæmia is of more frequent occurrence in the female than in the male. One reason for this, the normal proportion of red globules is somewhat larger in the male. Another reason is, of the causes giving rise to this morbid condition, several are peculiar to females, viz. menorrhagia, leucorrhœa, lactation, and child-bearing.

The foregoing morbid conditions relate to the quantity of the red globules. The question now arises, whether these bodies are not liable to changes as regards their conformation and their composition.

The red globules have a definite form and size, with a certain range of variation within the limits of health. They are circular and bi-concave, with a regular contour. In size they vary from 1-5000 to 1-3000 of an inch in diameter. Anatomists are not agreed whether they are cells or solid bodies. They are generally regarded as cells; but Robin, one of the most distinguished of the microscopists of the present time, regards them as solid bodies. When brought into contact with different substances out of the body, they are found to be readily altered in form, size, and, of necessity, in composition. They imbibe water by endosmosis, becoming swelled and globular. In some fluids they part with a portion of their water by endosmosis, becoming indented, losing their regular contour and sometimes presenting a wrinkled appearance over their whole surface. The latter changes occur when they are contained in urine. They may be witnessed under the microscope by adding a few drops of perspiration. Again, they are composed of several constituents, the more important being an albuminous substance externally, forming the cell-wall, in the opinion of those who regard them as cells, a substance within, in which resides the coloring matter, called hæmatin, iron, fatty matter, etc. Now, the form, size, and composition of these organized bodies are doubtless adapted to certain physiological ends



of more or less importance in the economy. And, since they are so easily altered out of the body, it may be inferred that changes in the liquid in which they are suspended (the liquor sanguinis) must, of necessity, give rise to various alterations of their size, form, and composition. This is a rational supposition, but, in the existing state of our knowledge, pathology is wanting in ascertained facts. The effects of various reagents out of the body have been studied; but the circumstances in the living body are so widely different that we cannot infer the same effects to be produced when the same reagents are administered as remedies, or to lower animals for the sake of experiment. Indeed, experiments of injecting into the blood-vessels various substances have shown the results to be different from, and sometimes quite the reverse of, those produced by applying the same substances out of the body. Future researches may lead to discoveries which will be found to have important pathological bearings; but at present no positive conclusions are warrantable.

A morbid condition of the red globules incident to inflammation may be here noticed. These bodies appear normally to exude a viscid or sticky substance in small quantity. This causes them to adhere in rolls or piles, presenting under the microscope an appearance compared to that of rows of coin. In the morbid state of the blood which obtains in inflammation, this exudation takes place in an abnormal quantity; hence, there is a notable tendency to adhere in rows. A drop of blood under the microscope may thus furnish a diagnostic sign of inflammation.

The blood contains in health certain gases, viz. oxygen, carbonic acid, and nitrogen. The red globules are supposed to be the agents which absorb and transport these gases. Oxygen and carbonic acid are received and expelled through the medium of the lungs, the interchange of gases with the atmosphere being necessary to the perfection of the blood, and constituting the function called *hematosis*. When these processes are interrupted, the normal condition of the blood, as respects the gases just named, is exchanged for a morbid condition. The blood does not undergo the conversion from venous into arterial; it presents in the arteries the dark color, and essentially the composition and properties of venous blood. It is incapable of sustaining life. This morbid condition of the blood has been called *asphyxia*, a term signifying absence of pulse. A more correct term, now more frequently used, is *apnoea*, signifying deficiency of breath. Any cause impeding respiration may occasion apnoea. It is the mode of dying in the fatal cases of a considerable number of diseases.

Deficiency of oxygen is the essential feature of apnoea, giving rise to phenomena which will be considered under the head of modes of dying. An excess of oxygen in the blood is probably never an element of disease. An excess of carbonic acid obtains wherever the respiratory function is compromised, and this is an element of apnoea. It is difficult to say what pathological effects are due to an accumulation of carbonic acid, and what to deficiency of oxygen, but the latter has undoubtedly the larger amount of agency in giving rise to the phenomena of apnoea.

With our present knowledge of nitrogen in the blood nothing is to be said of its pathological relations.

Of the known morbid conditions affecting the organized or corpuscular constituents of the blood, those which relate to the red globules are the most frequent. There is but one morbid condition relating to the white or colorless globules as yet ascertained; this consists in their abnormal multiplication. The white globules are spherical bodies larger than the red globules—nearly double in size—and relatively vastly less numerous. It is estimated that in health they are in the proportion of one to every one, two, or even three hundred red globules. An important point in its pathological bearing is their resemblance to the

pus globule. So closely do the two resemble each other that the most practised microscopical observers declare their inability to distinguish the one from the other. Robin and others regard them as essentially identical, and, as already stated, include both under the name of leucocytes.

For our knowledge of the morbid condition consisting in an increase of the number of the white globules, we are indebted to the microscope. The existence of such a condition was pointed out by two microscopical observers who were led to the discovery independently of each other in the same year (1845), viz. Bennett and Virchow. Virchow designated the condition *leucæmia*, a term signifying white blood. Bennett applied to it the name *leucocythemia*, signifying white blood cells. The latter is the better term, and is in common use. Both observers at first supposed the abnormal appearance of the blood to be due to the presence of pus.

A certain amount of increase in the number of white globules is not uncommon in various affections. In order to constitute leucocythemia, the increase should be considerable, amounting to a ratio of at least 1 to 20 of the red globules. Cases have been observed in which the ratio was much larger than this, amounting to an equal number of both, and the white even preponderating over the red globules. In all cases the red globules are diminished, and the relatively morbid disproportion is owing in part to this fact. In well marked cases the gross appearance of the blood undergoes a notable change. It acquires a reddish grey or a chocolate color. This is particularly observable after death, in the blood contained in the cerebral veins and sinuses.

This morbid condition of the blood is associated very constantly with enlargement of the spleen, frequently with enlargement of the liver, and in a certain proportion of cases the lymphatic glands of the neck, axilla, groin, etc., become more or less enlarged. A distinction has been made by Virchow into splenic and lymphatic leucocythemia, the former being characterized by enlargement of the spleen, and the latter by enlargement of the lymphatic glands. It is stated that the lymphatic variety is also characterized by notable augmentation of the small white bodies, called globulins; these are also increased in number, but in a less degree, in the splenic variety. A pathological connexion of some sort undoubtedly exists between the enlargement of the parts just named, and the morbid condition of the blood. What the nature of this connexion is, with our present knowledge, can only be conjectured. Bennett regards these and other ductless glands as agents for the production of the corpuscular constituents of the blood, and supposes that the red globules are, in fact, the free nuclei of the colorless globules. Hence, he concludes that leucocythemia is due to disturbances of this blood-function of the ductless glands, in consequence of which the white globules, not being transformed into the red, get into the circulation in a morbidly increased quantity. According to Bennett, disease of the thymus, thyroid, and supra-renal bodies may give rise to leucocythemia, these, together with the pituitary and pineal glands, being, in his view, concerned in the production of the blood globules. These views are at present to be received as hypothetical. It is to be remarked that enlargement of the spleen and lymphatic glands occurs frequently without leucocythemia; while the latter never occurs without the former. It would seem, therefore, that if they sustain to each other the relation of cause and effect, the leucocythemia is the effect rather than the cause. Both, however, may be concomitant effects of a pathological condition as yet unknown.

Patients affected with leucocythemia are, as already stated, anæmic. They present the pallor of anæmia, together with the phenomena symptomatic of that condition. Febrile movement characterizes certain cases, and in these cases the vital forces are rapidly enfeebled, and death takes place by exhaustion. Diarrhoea is apt to occur in this class

of cases. Other cases are characterized by hæmorrhages occurring from the nasal passages or in other situations, and these may be sufficiently profuse to prove the immediate cause of death. Dyspnœa, independently of any appreciable lesions of the chest, has been observed. Diminution of the vital forces, progressing more or less rapidly, belongs to the history of this condition, ending fatally sooner or later. It is doubtful if recovery ever takes place in cases in which the condition is well marked. The average duration before a fatal result, is estimated by Trouseau to be about thirteen or fourteen months.

This condition may be suspected when the appearance and other phenomena of anæmia are associated with considerable enlargement of the spleen or lymphatic glands. It is, however, to be borne in mind, that anæmia may occur under these circumstances without leucocythemia. Enlargement of the spleen, as is well known, occurs in a certain proportion of cases as a sequel of intermitting fever, and anæmia generally coexists; but observation shows that leucocythemia is developed very rarely in these cases. The diagnostic criterion is the evidence of the augmented number of white globules, afforded by microscopical examination of the blood. Several specimens should be examined under the microscope, and it is to be recollected that to constitute leucocythemia the proportion of white to red globules should at least be as great as 1 to 20.

The question arises, whether there are sufficient grounds to consider this morbid condition as constituting a special disease, or whether it is to be regarded as merely incidental to other affections. That it is a morbid condition of grave import, is certain; but how much importance belongs to it *per se* is uncertain. With our present knowledge we are not warranted in considering it as more than a pathological element of a cachexia, the essential nature of which remains to be determined. The pathologist may expect to be able to understand more fully the nature of this morbid condition, when physiologists have established the source and the functions of the white globules of the blood. Robin remarks that leucocythemia is a return to the foetal state as regards the predominance of these bodies, they being much more abundant in embryonic life, and that this fact affiliates this morbid condition with certain morbid growths characterized by a hypergenesis of anatomical elements which are more abundant in the foetus.

A third constituent of the blood, belonging to the class of corpuscular elements, is called, after Donné, globulins. These minute spherical bodies, found also in chyle and in the liquid contained in the lymphatic vessels, are notably increased in certain cases of leucocythemia. This single fact is all that is at present known respecting them as entering into morbid conditions.

M. Seguin denies that marriages of consanguinity have necessarily a tendency to produce diseased offspring. He relates the results of ten marriages which have occurred between his own family and the family of Montgolfier. Eight of these marriages were between cousins-german, and two between uncles and nieces. Between 1812 and 1858, sixty-one children have issued from these unions, of whom forty-six are alive. No case of deaf-and-dumbness, of hydrocephalus, of stuttering, or of six fingers on the hand, has been observed among them. M. Seguin concludes that, when there exists any constitutional tendency to disease in a family, the tendency to its development is increased in the offspring by consanguineous marriage; but that, in alliances between members of a family endowed with a good constitution, there will be augmentation of the vital forces in the offspring. This is, in fact, just what is observed in animals whose breed is improved by man. M. Flourens remarked on the subject, that it is always well to study long before publishing, and that nothing has hitherto been advanced on the subject of consanguineous marriages worthy a serious consideration.—*Brit. Jour.*

## Original Communications.

### A FEW REMARKS ON ASTIGMATISM,

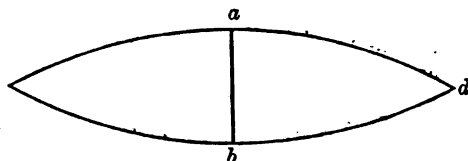
ILLUSTRATED BY A CASE.

By F. J. BUMSTEAD, M.D.,

SURGEON TO THE NEW YORK EYE INFIRMARY.

I do not propose to write a complete essay on astigmatism. As the term, however, may be new to some of the readers of the *Times*, a few words in explanation of its meaning may be desirable.

The surface of an ordinary double convex lens may be



supposed to be formed by the revolution of the plane figure *abcd* about its axis *ab*; and hence the curvatures of all its sections are equal. This is, indeed, essential to make such a lens a useful optical instrument; for suppose the curvature of one section to be greater or less than that of another—in other words, suppose the optician to have ground the two surfaces of the lens unevenly—no clear and distinct image of any object can be obtained through it, because the rays of light striking upon different portions will be unequally refracted, and will fail to come to a focus and form an image in the same plane.

Now simply substitute the word *cornea* for the word *lens* in the above remarks, and you have an explanation of astigmatism. A typical cornea, one of the refracting media of the eye, may also be regarded as a surface of revolution with the curvatures of all its sections equal;\* hence rays of light proceeding from a luminous point and striking upon various parts of its surface are equally refracted, and passing through the other dioptric media of the eye, are brought to a focus at one point within the globe. But in the astigmatic eye nature has not ground the cornea in an equal manner; its curves vary to a greater or less degree; thin sections cut in various directions and placed one upon another will be found, if critically examined, not to correspond. Hence rays of light proceeding from a luminous point and passing through such a cornea, are not brought to a focus at a single point within the globe, but each distinct place of refraction has its own focus; and hence the origin of the name (probably not the best that might have been chosen) from a privative and *stigma*, a point, signifying without a point or focus within the eye to which rays of light converge.

Nature preserves a certain regularity even in the irregularity we are now considering. She does not select at random one of the infinite number of planes which may be supposed to pass through the antero-posterior axis of the eye, as the one which shall present a curve greater or less than the normal curve of the cornea; but it is commonly either the vertical or the horizontal plane, or one nearly approaching them, which is thus defective. Suppose it to be the former, or vertical plane, and suppose also that the curve of the cornea in this plane is too convex; then the rays of light entering the eye in this plane will be too strongly refracted, and will come to a focus in front of those rays which enter in the horizontal plane (supposed to possess the normal curve): in other words, the patient will be myopic in the vertical meridian of his eye, although his sight is normal in the horizontal meridian; and when look-

\* Strictly speaking, the normal cornea is not a surface of revolution, since the curve of the horizontal plane is usually less than that of the vertical; but the difference is only regarded as a disease when it exceeds ordinary limits and is capable of being corrected by cylindrical glasses. In this paper, which is intended to be purely elementary, normal astigmatism may be ignored.

ing at a distant object, he will see its lateral edges distinctly while its upper and lower edges will be blurred. Again, instead of being too convex the curve in the same plane may be too flat, when the rays of light in the vertical meridian will come to a focus behind those of the horizontal meridian, and the patient will be hyperopic in the vertical plane; or, again, the vertical meridian may be normal while the horizontal meridian is either myopic or hyperopic; while, still again, both the vertical and the horizontal meridian may vary from the normal type, both being either myopic or hyperopic, but each to a different degree, or the one may be myopic and the other hyperopic. Thus it will be seen that the term astigmatism, although always applied to a variation in the refractive power of the eye in different planes, may include a considerable variety of pathological conditions.

An excellent history of our knowledge of astigmatism may be found in the well known volume of Dr. Mackenzie upon diseases of the eye. The disease was first discovered by Mr. Thomas Young in 1801; a remarkable instance of it in his own person was reported by Mr. Airy, Astronomer Royal, in 1827; a few other cases were also brought to light by various observers; but neither the frequency, the symptoms, nor the treatment of the disease were fully appreciated until the publication, in 1862, of Prof. Donders's work, entitled "*Astigmatismus und Cylindrische Glaesser*." With regard to its frequency, Prof. Donders states that he has met with it on an average in one out of every thirty eyes that he has examined. The symptoms of this disease and the means of diagnosis will appear in the report of the following case:—

Mr. L. F., aged 38, a lawyer by profession, applied to me May 3, 1863, for "dimness of vision," which had troubled him for the last twenty years. He had been under the care of several surgeons who had treated him for "amaurosis" or "asthenopia." His own account of his symptoms was obscure and unsatisfactory, and amounted to this:—that he could not see well, especially after mental excitement or bodily fatigue; that, for instance, when trying a case in court, or after a late supper or excessive smoking, he found it extremely difficult to use his eyes; and that he had tried many kinds of glasses without benefit. Nor did the ordinary methods of examination afford any better clue to the nature of his disease. I found on trial that he could read No. 20 of Dyer's tables at twenty feet. His power of accommodation was normal for his age. There was no insufficiency of the internal recti, nor any defect in the other muscular apparatus of the eye. Upon examination with the ophthalmoscope, the fundus oculi and dioptric media appeared to be perfectly healthy.

Although puzzled for a moment at this result of my examination, the thought soon occurred to me that this might be a case of astigmatism, and I proceeded to question my patient more closely with regard to his symptoms. I asked him if, in looking at an object, he ever saw one portion of its outline more distinctly than another. He replied yes; that in walking through the street at night and looking at a lighted window, the upper and lower edges appeared blurred while the lateral edges were distinct. Again, in looking at a sign across the street, there appeared a second series of letters fainter than the true image and overlapping the latter above and below, and he had observed that this was the case whether one or both eyes were open. This indistinctness of the outline of objects in a vertical direction never entirely disappears, but varies greatly according to the condition of his nervous system. Under ordinary circumstances, it is noticed only when looking at objects which present a marked contrast in color or brightness, as the lighted window and gilt letters upon a black sign, just mentioned; but let him be fatigued or excited, and the dimness appears to affect all objects—even the figures upon the carpet, the ordinary type of a book, or newspaper, etc.

Taking up Snellen's tables of test type, and selecting

the one in which the letters are white upon a black ground, I now requested the patient to describe their appearance. He voluntarily placed himself at a distance of about eighteen feet, and looking at the capital C of No. 100, told me that he saw a second image overlapping in a vertical direction the true image and with its upper edge about half an inch above the latter; also, when regarding the smaller letters of No. 20, he saw a complete reduplication of the figures projected upon the black ground above. In both instances the lateral margins of the letters remained distinct, and the effect was the same if either eye was closed. Having cut a narrow slit in a card, I placed the fissure in a horizontal direction before one eye, the opposite being shut, when the patient immediately exclaimed that the indistinctness of outline had disappeared; but on the contrary, it was heightened, when the position of the fissure was changed to vertical. Other similar tests were also applied. For instance, the holes in an ordinary catheter gauge held before an argand burner appeared to the patient not as circles, but as ovals with their longer axes vertical, and this direction was changed to the horizontal if he inclined his head to a right angle with the axis of his body; moreover, the normal circular image was brought out by looking through a slit in a card in the manner above described.

It was now evident that my supposition was correct, and that there was a defect in the refractive power of the eye confined to the vertical meridian; it remained to discover in what this defect consisted, whether myopia or hyperopia, and also its degree. For this purpose I placed him under such conditions as would render the indistinct vision most marked, viz. with the slit in the card in a vertical direction so as to cut off the horizontal rays; and trying various glasses both convex and concave, I soon ascertained that several of the latter diminished, and that a double concave glass of 30-inch virtual focus completely removed the difficulty. My patient was, therefore, myopic to the extent of 1-30 in the vertical meridian of each eye, while his vision was normal in the horizontal plane.

In a second examination with the ophthalmoscope I observed a phenomenon which previously escaped me. If an astigmatic eye, owing to the defective refraction of its media, sees a circle as an oval, a circle at the fundus of an astigmatic eye should appear oval when seen by a normal eye, since the rays of light undergo the same refraction in passing from, as when entering, the organ of vision. Such a test is to be found in the circular outline of the optic nerve entrance. This test of astigmatism was first pointed out at the Ophthalmic Congress at Heidelberg, in 1861, by Dr. Knapp, who showed that in examining by the upright image the diameter of the optic nerve entrance appears longest in the meridian of the greatest curvature of the cornea, and shortest in the meridian of least curvature; while the contrary is true, when the reversed image is employed—a statement which I was able to verify in the case of Mr. F.—

Astigmatism is relieved by the use of cylindrical glasses—lenses, the surfaces of which are cylindrical instead of spherical, and which therefore refract in one meridian only. In the present case, double concave cylindrical glasses of 30-inch virtual focus, with the axes of the cylinders horizontal, completely removed the defect of vision. When the use of glasses was first suggested to Mr. F., he did not hesitate to express his belief that they could be of no benefit to him whatever; but after a moment's trial he was convinced of the contrary, and expressed his delight with almost childlike exuberance of joy at the relief which they afforded.

Cylindrical glasses cannot at present be made in this country, or at least in New York, to which my knowledge in this respect is confined; but they may readily be procured of Messrs. Paetz and Flohr, of Berlin, or of Natchez et fils, Paris. A complete set should be included in the armamentarium of any one who makes a specialty of eye diseases.

The defect in the conformation of the cornea upon which astigmatism depends, is congenital. I explain the fact that in the present instance it did not annoy the patient until about the age of eighteen, upon the supposition either that it passed unnoticed, or that, like hyperopia, it was compensated for by the high degree of accommodation of early life. The latter explanation is supported by the influence of mental excitement and bodily fatigue in aggravating the annoyance which the disease occasioned.

## POISONING BY STRYCHNIA.

By W. D. BUCK, M.D.

OF MANCHESTER, N. H.

THE criminal use of strychnia is of recent date; but cases of murder by it are getting to be frequent, and the phenomena have not always been carefully observed, or, if so, have not been reported.

A case occurred in this city last January, a report of which may add something to our knowledge of the symptoms and post-mortem appearances. On the 16th, about 11 A.M., Dr. Caldwell was called to Mary Ann Gibney, Irish, unmarried, six months advanced in pregnancy. She was lying on a bed upon her back, and to the left, jaws closed, forearms flexed across the chest, fingers clenched. The legs were not carefully observed. During the spasms she uttered screams. In the interim she conversed, was conscious of approaching death, and attempted to swallow medicine, but most of it would be forced back. She lived about thirty minutes, and died in a spasm. There was no period of flaccidity after death, rigor mortis being continuous with the last spasm.

Coroner Rowell saw the body soon after death, and testified that it was arched (opisthotonos). I saw her at half-past three, four hours after death. The body was warm, temperature of the atmosphere 53°. The face was livid, eyes open, pupils natural, jaws firmly closed, lips slightly parted, frothy matter escaping from the mouth; muscles of the neck relaxed; arms rigid, elbows flexed at right angles, forearms across the chest, fingers semi-flexed, and when forcibly extended would fly back; the same with the elbow; the legs were rigidly extended, feet extended and arched, great toes drawn in.

Saw the body at 6 P.M.; bloody, frothy matter escaping from the mouth; in other respects, the same.

At 9 o'clock, Dr. Wheat saw her at my request. No material change.

*Autopsy at 8 A.M. the 17th, twenty-one and a half hours after death.* Temperature of the atmosphere 168; body cold, face livid, jaws rigidly closed; the neck, back, left arm, right shoulder, and hip-joints were relaxed. Other parts rigid, and in the same position as the day before, manifesting the same tendency to fly back when forcibly extended. On sawing through the cranium, a large quantity of blood escaped from the cavity, probably from the sinuses and vessels of the head and neck; membranes congested; brain and spinal marrow healthy; the lungs, lining membrane of the trachea, and muscles in front of the neck were congested; the heart was firmly contracted, ventricles empty, very little blood in the auricles. Abdominal viscera healthy externally; stomach nearly empty, containing about half an ounce of a greyish, starchy substance. The mucous membrane of the cardiac extremity congested; the remaining portion was covered with a substance similar in appearance to the contents, and could not easily be removed; the mucous membrane of the small intestine was pale; liver, kidneys, and spleen, healthy; uterus contained a six months' fetus. A portion of the abdominal viscera was examined by Dr. A. A. Hays, of Boston, and found to contain strychnia in sufficient quantity to produce death.

There are two or three points in this case worthy of notice:—1st. The early disappearance of the rigor mortis in certain parts of the body, the neck being relaxed four

hours after death, and, notwithstanding the morning of the 17th was cold, the back, left arm, right shoulder, and hip-joints, were relaxed 21½ hours after death. 2d. The empty condition of the stomach; either it had received nothing just previous to death, or its contents had been thrown out by spasmodic action. That the latter may take place, I am satisfied, having witnessed it in a young man several years since, who took strychnia for the purpose of committing suicide. During the spasms the contents of the stomach were ejected from the mouth, between the teeth, with sufficient force to reach the ceiling.

3d. The point which I wish to notice more particularly, is the tendency of the limbs to fly back when forcibly extended. It was noticed by Mary Keeley, who laid out the body of Cook. Also by the person who laid out the body of Healy, who was poisoned by strychnia in Auburn, N. H., three or four years ago. Is there any other mode of death where the rigor mortis exhibits this phenomena?

I have seen muscular action after death by cholera, previous to rigor mortis, but never witnessed anything like what occurred in the case of Mary Ann Gibney.

MANCHESTER, N. H., Sept. 25, 1868.

ROYAL FREE HOSPITAL.—Dr. Henry Bennet has resigned the office of Physician-Accoucheur to the Royal Free Hospital. His resignation was received and accepted at the meeting of the Hospital Board on the first of October, and the secretary was requested to convey to Dr. Bennet the compliments of the Board, and their sincere wishes for the complete recovery of his health.—*Lancet*.

## HOSPITAL GANGRENE,

WITH A TABULAR STATEMENT OF THIRTY-THREE CASES.

By FRANK H. HAMILTON, JR., M.D.,

ASSIST.-SURG. U.S.A., McDUGAL GEN. HOSP., FORT SCHUYLER, N.Y.

THE following is a tabular statement of thirty-three cases of hospital gangrene which occurred at the McDougal General Hospital, Fort Schuyler, N.Y., within the last two months. I have thought that inasmuch as the subject of bromine in hospital gangrene is now being discussed pretty actively by the profession, these tables might be of some value to those interested in the subject. An analysis of the tables elicits the following facts, viz.

Whole number of cases treated, 33.

Of these but two were attended with fatal results, and these some days after the gangrene had been arrested. I refer to the cases Nos. 29 and 30. In the former, the patient died from exhaustion, the result of extensive sup-puration in the knee-joint, the wound having been in perfectly healthy condition for several days. In the latter case the patient died from dysentery, his wound having put on a healthy action two weeks before his decease.

In one case, viz. No. 4, where nitric acid was used, the disease was not arrested, and at the end of ten days it was found necessary to amputate the leg above the knee. The stump healed by the first intention. Looking at the table again, and analysing it, it will be seen that the average duration of all the cases under all treatments amounts to 12.1515 days.

Number treated with nitric acid,	18.
Average duration of disease,	16 days.
Number treated with sol. bromine,	14.
Average duration,	6.6428 days.
Number treated with iodine,	1.
Average duration,	7 days.

The cases were under the care of Drs. Caldwell, Peck, Graves, and myself, respectively, and the sanitary surroundings were as nearly similar as could be possible. We were all agreed upon the constitutional treatment, which consisted in good diet, whiskey, and iron. The figures show strongly in favor of the use of bromine.

No.	Name.	Age.	When Admitted.	When Wounded.	Part of Body.	Flesh or Bone Injured.	Missile.	Surgeon.	Previous Condition of Wound and Health.	Cause of Gangrene.	Treatment.	Result.	Remarks.
1	E. B. George.....	20	Aug. 14	July 18, '63	Right Leg.	Flesh.	M. Ball.	Dr. J. J. Caldwell.	Good.	Infection.	Nitric acid, locally; yeast and charcoal poultices, tonics, stimulants.	Arrested in 13 days.	These cases were treated by Act. Asst.-Surgeon J. J. Caldwell, U.S.A.
2	A. Hollands.....	25	April 22	"	Left "	"	"	"	"	"	"	"	In this case the disease was not arrested until both tibiae had been attacked, and amputation was performed above the knee, Sept. 10, 1863. Stump healed by first intention.
3	Anthony Collins.....	26	"	"	"	"	"	"	"	"	"	"	No. of cases treated by Dr. C. O. 10—
4	G. W. McComber.....	20	Aug. 12	July 18, '63	"	"	"	"	Poor.	"	"	"	one not arrested. Average duration—
5	F. M. Hill.....	22	"	"	Right Foot.	"	"	"	Good.	"	"	"	187-9-20.7-9 days. Dr. C. used pure
6	C. J. Curtis.....	25	"	"	Left Thigh.	"	"	"	"	"	"	"	nitric acid locally, in conjunction with
7	P. Murphy.....	21	"	"	"	"	"	"	"	"	"	"	yeast and charcoal poultices. Constitu-
8	H. Ryan.....	30	"	"	Right "	"	"	"	"	"	"	"	tional treatment consisted in adminis-
9	W. Webber.....	21	"	"	"	"	"	"	Poor.	"	"	"	tering tinct. ferr. murat. with six oz.
10	Edward Hayes.....	24	"	"	Right Leg.	"	"	"	Chron. Ulcer.	"	"	"	whiskey per diem, and nourishing diet.
11	W. H. Monroe.....	22	July 10	No Wound.	"	"	"	Dr. L. Graves.	"	"	"	"	These cases were treated by Acting
12	Daniel Anderson.....	18	"	"	Left Thigh.	"	"	"	Good.	"	"	"	Asst.-Surg. Lewis Graves, U.S.A.
13	Jno. Barbrick.....	27	"	"	Leg.	"	Shell.	"	"	"	"	"	Dr. G. used a solution of bromine,
14	Thomas King.....	23	"	"	"	"	M. Ball.	"	"	"	"	"	containing of bromine, f3j aqua, 3 viij.
15	Jno. Wobert.....	30	"	"	"	"	Splinter.	"	"	"	"	"	applied with a camel's hair pencil, fol-
16	O'Brien.....	28	"	"	"	"	M. Ball.	"	"	"	"	"	lowed by applications of lint saturated
17	Wallace Boskin.....	19	"	"	Right "	"	"	"	"	"	"	"	with yeast.
18	Abd. Holbrook.....	24	"	"	"	"	"	"	"	"	"	"	In all these cases but that of Ander-
19	Geo. Gifford.....	19	"	"	"	"	"	"	"	"	"	"	son nitric acid had been used without
20	Jno. Bomverch.....	20	"	"	"	"	Ball.	F. H. Hamilton, Jr.	"	"	"	"	effect before coming under his care.
21	Gleason.....	19	"	"	Left "	Tibia.	"	"	"	"	"	"	He has always observed that the pa-
22	Henry Rose.....	23	"	"	Right "	"	"	"	"	"	"	"	tient complains of headache, slight
23	J. E. McCartney.....	20	Aug. 12	July 3, '63	Right & Lt.	"	"	"	Poor.	"	"	"	fever, and exhibits a furred tongue two
24	R. R. Cotton.....	38	July 15	"	Left Thigh.	Flesh.	"	O. W. Peck.	Good.	"	"	"	or three days before the wound looks
25	Jno. Burke.....	45	"	"	Right Leg.	"	"	"	"	"	"	"	badly.
26	Daniel Skinner.....	44	"	"	"	"	"	"	"	"	"	"	Total No. of cases, 9.
27	F. Carr.....	35	"	"	Left Leg.	"	"	"	"	"	"	"	Average duration—69-9-6½ days.
28	G. W. Manning.....	32	"	"	Left Leg.	"	"	"	"	"	"	"	In the first case had bromine been
29	Peter Carl.....	23	"	"	Thigh.	"	"	"	"	"	"	"	used earlier, I believe the disease
30	W. Harrington.....	31	"	"	Right "	"	"	"	"	"	"	"	would have been arrested much sooner.
31	L. D. Oliver.....	17	"	"	Left Ankle.	Bone.	"	"	"	"	"	"	The solution of bromine used was
32	R. W. Washburn.....	26	"	"	Thigh.	"	"	"	"	"	"	"	the same as that used by Dr. Graves.
33	Michael Salois.....	27	Oct. 7	"	Nates.	"	"	"	"	"	"	"	Average duration—25-4-6½ days.

These cases were treated by Acting Asst.-Surg. O. W. Peck, U.S.A.

No. of cases treated with nit. acid, 8; iodine, 1; Av. duration with nit. acid—13½ days.

\* In this case the gangrene was arrested in twenty days, but he subsequently died of exhaustion from extensive suppuration in the knee-joint.

The case that was treated with everything but bromine, is included in the average treated by nitric acid, inasmuch as this was the main remedy used.

† This was a case where the disease attacked an unbroken surface.

# REMARKS ON CYANOSIS. BEING A REPLY TO DR. JACOBI. By J. LEWIS SMITH, M.D.,

PHYSICIAN TO THE ORPHAN HOME AND ASYLUM, LECTURER IN THE  
UNIVERSITY MEDICAL COLLEGE.

I WAS NOT AWARE of the nature of the criticisms of my paper on cyanosis made before the Academy of Medicine, till the recent appearance of the Bulletin of this Society, and as some of these criticisms seem to me to relate to points of importance, it is proper that I should take notice of them. And this I shall do with much esteem for my criticizer, as a personal friend, and with a proper appreciation of the zeal and intelligence with which he prosecutes the study of diseases of children. And at the outset let me say that much confusion can be avoided by bearing in mind my definition of cyanosis. I have stated in my paper, that I apply this term only to those cases in which the blood, both in the arteries and veins, is venous, in consequence of some permanent abnormal state in the economy, and therefore continuing venous till the close of life, and that this abnormal state has been found to be in the heart, or great vessels, or rarely, the lungs. Of course, the temporary venous state, occurring in diseases, as in croup or pneumonia, I would consider only a feature or result of the disease which causes it, and not a disease *per se*.

Now, is cyanosis, according to my definition, a disease proper, or only a feature of disease? To answer this question we must first decide in reference to another, namely, whether the serious affection of any system, as the nervous or circulatory, accompanied by marked symptoms, but caused by a local ailment or defect, which is productive of few direct symptoms, and is not in itself serious, is to be considered a disease, or only a symptom or feature of the local ailment or defect. Take, for example, tetanus, which is very analogous to cyanosis. Is the affection of the nervous system in tetanus to be considered a disease *per se* or only a "symptom" of the wound? It is obvious that it should be considered a disease, because the wound, although acting as cause, soon becomes a subordinate matter to the affection of the nerves. The symptoms and the danger arise chiefly from the state of the nerves, and not directly from the wound. And so in case of cyanosis, the signs and symptoms, such as the coldness, the emaciation, or stunted growth, the feeble development of the sexual functions, the lividity, the abnormal development of the fingers and toes, spring chiefly from the state of the blood, and not directly from the malformation. In other words, the symptoms and signs arising directly from the malformation, are subordinate to those arising from the venous state of the blood, and therefore I hold that this venous state should be considered a disease *per se*.

The view which I have expressed, is certainly in consonance with the opinion of the best pathologists, as shown in reference to other diseases. If a patient has a decided icteric hue, due to slight duodenitis, or perhaps to a torpid state of the liver, unaccompanied by pain or tenderness, the best authorities do not hesitate to call the disease jaundice. Or if there is decided pallor from imperfect assimilation of the food, they call the disease chlorosis; and if blood loaded with bile, or blood deficient in red corpuscles, is a disease, why is not blood loaded with carbonaceous products, and deficient in oxygen?

An attempt is made in the criticism to show that leucocythemia, which is an affection analogous to cyanosis, is not a disease *per se*, and doubtless it will be admitted that if leucocythemia is a disease, then also is cyanosis. Now, let me remind the reader, that the discoverer of leucocythemia, who is second to no one in Great Britain as a pathologist, has always considered leucocythemia a disease, and repeatedly speaks of it as such, although he discards the idea of Virchow, that it consists of two varieties: the splenic and lymphatic.

A little further on in the criticism is found the expres-

sion, " \* \* the attempt on the part of Dr. Smith, to prove that cyanosis is a new disease, is only an evidence of a retrograde movement in medicine." This remark I do not understand. It is distinctly stated in my paper, that physicians began to give attention to cyanosis as far back as the time of Boerhaave and Vieussens, and that Morgagni, more than a century ago, broached a theory in explanation of it, which still has many adherents.

As to the idea that the malformations which produce cyanosis are caused by myocarditis, occurring at an early period of foetal life, it is only necessary to go a little into the study of the malformations to see that this explanation is unsatisfactory. For in the most common malformation, that in which the pulmonary artery is in fault, there is a certain proportion of cases in which it is obvious that myocarditis cannot be the cause of the anatomical defect. We refer to those cases in which the pulmonary artery is absent. No amount of inflammation of the heart could cause the absence of this vessel, especially as the latter, or rather the common arterial trunk, which afterwards becomes the aorta and pulmonary artery, is formed before the heart. And is it not probable that the non-development and the imperfect development are due to the same cause, whatever that may be? If so, the inflammatory doctrine cannot be received as a sufficient explanation, in a large proportion of cases, in the most common malformation. Again, the inflammatory doctrine evidently does not afford sufficient explanation for those cases in which the malformation is not obstructive, as, for example, those in which the defect consists in transposition of the aorta and pulmonary artery. Still, it must be conceded that there is reason to believe that inflammation affecting the lining membrane of the heart may be the cause of those obstructive malformations in which there is adhesion of the valves, or in which an adventitious membrane stretches across the mouth of the pulmonary artery.

I have not stated in my paper, and do not now say, that the maternal emotions are, in any case, the cause of the malformation, although the mother sometimes expresses this opinion. Certainly they are not, when experienced as late as the fourth or fifth month of utero-gestation, since the growth of the heart is then too far advanced. And yet, why may not the opinion of mothers sometimes be correct; why may not the maternal emotions, at an early period of foetal life, be a remote cause, even if the malformation is due to myocarditis, since there would, of necessity, be a cause antedating the inflammatory action? But this is a subject about which much may be conjectured, but little can be known with certainty.

I desire to call attention particularly to the important part of the criticism, namely, the objection to my theory that cyanosis is due to vices or defects in the organism, usually congenital, which prevent the free and regular flow of blood to, through, or from, the lungs. A case is narrated, in which the bronchial arteries were much enlarged, so as to afford a free flow of blood to the lungs as a compensation for a defective pulmonary artery, and yet intense cyanosis was present. Who does not see that, in order to make the argument good, the bronchial arteries should arise from the pulmonary, or at least from the right ventricle, instead of from the aorta? for only then could the bronchial arteries, however much enlarged, answer the purpose of the pulmonary artery. For, consider, in the case cited, as the bronchial arteries were in their normal situation, they must have given passage to the lungs of a mixed current, namely, the blood which had just returned from the lungs, to the left auricle and ventricle, and was already arterialized, and also the blood which had returned to the right ventricle from the system. A portion of the blood, then, which entered the bronchial arteries, passed directly from the lungs to the heart, and then back to the lungs, to the exclusion from these arteries of the same amount of venous blood, which the wants of the system required to be arterialized. There was far from being a "free and regular flow of blood to the lungs" in this case, although quite



likely the whole amount of blood flowing to these organs was as great as in the normal state of the circulation, and if as great, the large size of the pulmonary veins is accounted for. It is evident that this case, instead of conflicting with, tends to corroborate my theory. I wish it to be understood, however, that I believe that these enlarged bronchial arteries served as a partial compensation, as in cases No. 75, 117, and 150, in my paper; and probably they would have afforded complete compensation, and there could have been no cyanosis, had they arisen directly or indirectly from the right ventricle.

The argument in the criticism concludes as follows: "Thus, the theory of Dr. Smith is inconsistent with true pathology, for two reasons: firstly, because there are cases of cyanosis which evidently have other and distinct causes, and secondly, because in many cases in which the anatomical condition required by his theory is present, there is no cyanosis."

Now, I hold that the first of these assertions is not true, and that the second, though true, is not an objection to my theory. I have not yet met the description of any case of cyanosis, according to my definition of the term, in which there was a "free and regular flow of blood to, through, or from the lungs." Certainly the case which has been cited as an example does not, as we have seen, bear the test of examination.

As to the second assertion, that there may be malformations which prevent the "free and regular flow of blood to, through, or from the lungs," without producing cyanosis, this is a fact which is treated of at length in my paper. Many cyanotic patients have, in the early period of their lives, been free from the disease, till it was developed by some exciting cause, and yet, during the period of exemption, the anatomical defect was present which finally produced cyanosis. Now, it is wrong to argue that, because there is obstruction or irregularity of the pulmonary circulation during the period of exemption, therefore the obstruction or irregularity is not the cause of the subsequent cyanosis. For, who does not see that by the same argument the malformation itself must be excluded as the cause of cyanosis, since it is present during the period of exemption? Take, for instance, case 147 in my paper. In this patient the aorta and pulmonary artery were transposed, and yet there was no cyanosis till the age of ten weeks. Here the anatomical condition required by my theory was present, but if, because it was present during these ten weeks of exemption, we say it was not the cause of the cyanosis, we must also say that the transposition was not the cause. The second objection, then, to my theory can have no weight.

**DEATH OF DR. GEORGE HAYWARD.**—While the meeting of the Councillors of the Massachusetts Medical Society was in session yesterday, Dr. John Jeffries announced the sudden decease, within an hour, of Dr. George Hayward, of this city, by apoplexy. The abruptness of this announcement produced a profound impression upon the gentlemen present, many of whom were among Dr. Hayward's old friends and associates. A committee was at once appointed to recommend some action on the part of the Councillors in view of this sad event. After consultation, the committee reported as follows:

The committee appointed to consider what order should be taken in relation to the announcement just made by Dr. Jeffries of the sudden death, since the opening of this meeting, of Dr. Hayward, former President of this Society, and for a long series of years an active and efficient member, recommend, that a committee be appointed to adopt such measures as may, on consultation with Dr. James Jackson, Dr. Jacob Bigelow, Dr. John Ware, and the officers of this Society, and such others as they may please to consult, seem appropriate to this sad occasion.

The report of the committee was accepted, and its suggestions unanimously adopted. Drs. Dalton, Jeffries, and J. Mason Warren were chosen a committee to act in accordance with its provisions.—*Boston Jour.*

## Reports of Societies.

### NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, May 27, 1893.

DR. H. B. SANDS, VICE-PRESIDENT, IN THE CHAIR.

#### NECROSIS FOLLOWING ERUPTIVE FEVER.

DR. VOSS presented the girl from whom he had removed nearly the entire maxillary bone, and whose history he had given at the previous meeting. He remarked that Dr. Southack (*Guy's Hospital Reports* for 1858, and also in *Trans. of the London Pathological Society*) states, that destruction of the inferior maxillary bone is not uncommon in children after eruptive fevers. The teeth, being a dermoid tissue, become affected with the skin, then the pulp of the tooth, and lastly the bone suffers. Dr. Voss stated, that in the present instance, as far as he could learn, there had been no eruptive fevers. He had, however, met with two cases of necrosis of the intermaxillary bone, which was a sequel to scarlet fever. In those cases not only the teeth were destroyed, but in consequence of the deficiency of bone the tip of the nose was depressed, giving rise to considerable deformity. This was not met with in a case of congenital absence of the intermaxillary bone, and he had only seen one such.

#### CANCEROUS KIDNEY.

DR. LOOMIS presented a specimen of a kidney, on behalf of Dr. Leaming. The patient first came under the notice of Dr. Leaming on the 22d of July last; he was 38 years of age, and had been ill during three years previous. At that time he began to have pain in the perineum, which was so severe that it compelled him to take opium to get relief. Very soon after he began to have bloody urine, and the pain located itself in the right lumbar region. His hereditary tendencies were cancerous, cancer having developed itself in both members of the family. There was no hereditary predisposition to tuberculosis. He was a resident of Norfolk, and until eighteen months since he performed his duties as a merchant in that place, but was during all the time under some physician's care; and during the course of the said treatment was twice salivated. At the time of the occupation of the city by the Union army, Gen. Vié sent a surgeon to the patient, who suspected the existence of cancerous disease, and accordingly put him upon tonic treatment and regulated his hygiene. The patient was under that treatment until the 22d of July last year, when he came to this city and put himself under the care of Dr. Leaming. There was then found dullness on percussion, extending from the lower border of the ribs on the right side to the crest of the ilium, and extending inward to the median line. The patient was very much emaciated, of a sallow countenance, and presented other evidences of cachexia. No signs of disease were found in the lungs. The patient continued in this condition until fall, when he seemingly improved for a time, and had a copious discharge of pus from the rectum, which discharge was attended with corresponding decrease in the size of the tumor. After this the tumor increased in size, pressing up against the under surface of the liver. On the 16th of the present month he died rather suddenly. During the last year he had been compelled to keep his bed for most of the time, and to take large doses of Majendie's solution.

The autopsy was made six or eight hours after death. At the request of the friends of the deceased, the abdomen only was examined. On laying open the abdomen the peritoneum on the right side was found firmly adherent to a mass of some kind which proved to be a large abscess, containing about three pints of pus, in which was found the kidney firmly adherent at its posterior portion. The capsule of the kidney was found very much thickened, and its posterior portion was destroyed so that the substance of the organ formed a portion of the wall of the abscess.

On laying open the kidney it was found infiltrated by tuberculous matter. Before opening the abdomen it was found that the abscess had nearly formed an opening through the integument in the right iliac region. The opposite kidney was found remarkably healthy.

DR. FLINT stated, that it was remarkable that no disease was found in the lungs, the rule being that those organs were the first affected with that disease in the adult.

DR. SANDS remarked, that he had met with a very curious exception to that rule in a post-mortem examination made while he was interne in Bellevue Hospital. In that case, tubercles were discovered in almost every part of the body except the lungs; the surface of the peritoneum, pericardium, and pleura, and in the substance of the liver and kidney.

#### TUMOR OF TESTICLE.

DR. SANDS presented two specimens of diseased testes removed by Dr. Parker from a gentleman 72 years of age. The patient was the father of a large family of healthy children, and with the exception of having irreducible inguinal hernia for over twenty years enjoyed good health. About a year and a half ago the left testis began to enlarge; but not experiencing any pain or any inconvenience except by its weight, he did not become alarmed until about two months before the period of the operation, when the organ of the opposite side became also diseased. He denied ever having had syphilis. He had neither any hereditary taint to cancerous disease. At the time Dr. Parker saw him, the left testicle measured four or five inches in its longest diameter, and three or four inches in its shortest diameter. The right testicle was not so large. The feel of both was very much the same, firm, elastic, and of even contour. On the left side there was also noticed a firm tumor of the spermatic cord, which extended nearly up to the level of the abdominal ring. No glands in the neighborhood were affected. The disease of the organs was presumed to be cancerous. In consequence of the presence of the irreducible hernia the scrotum was turned up upon the abdomen, and an incision made upon its posterior surface. The left testis was first removed, but the tunica vaginalis of that side was obliterated, so that the enucleation of the mass was rendered quite difficult, but the chief trouble consisted in peeling off the adherent sac from the surface of the tumor. The section of the cord was made very near the ring beyond the point at which it was enlarged. The removal of the right testis was accomplished without much difficulty.

The left organ, on section, presented a firm yellowish surface, but yielded no juice on pressure. It looked very much as if the tissue had been converted into a granular or fatty material. There were no granules whatever to be discovered in the organ. The yellowish mass seemed to pervade almost the entire organ, except at its external surface. The other testicle gave very much the appearance of malignant disease; the tumor was of a rosy hue, and occupied nearly three-quarters the substance of the testicle. The enlargement of the cord was due to the presence of a substance very much like that contained in the tumor of the right testicle. A rather hasty microscopic examination of the tumors was made, with this result.

The most marked microscopical elements were found in the rosy tissue of the right testis. The cells were different from those seen in cancerous tissues. The growth was mainly cellular, the cells nearly uniform in size, rounded, not so large as cancer cells but more like granulation cells, with large nuclei and nucleoli. Seminal tubules were found in the healthy portion of the right testis. The cheesy mass presented a collection of fatty granules and other molecules. The patient died 48 hours after the operation from gangrene of the scrotum. No autopsy could be obtained.

DR. SANDS was of the opinion that the disease was cancerous, but remarked that its occurrence in both testicles was very rare.

DR. KRACKOWIZER stated that he had examined two or three specimens under the microscope from the left testicle. The centre of the cheesy mass was made up of shrunken

nuclei with free fat and granular matter, while the cortical substance was composed almost altogether of cells set into a homogeneous substance. The cells were small with nuclei, and there were also some free nuclei. Dr. Krackowizer was of the opinion, from the microscopical as well as gross appearances, that the disease was syphilitic sarcocele.

The Society then adjourned.

## American Medical Times.

SATURDAY, OCTOBER 31, 1863.

### REFORM IN MEDICAL EDUCATION.

THE medical session of the year has been inaugurated by the opening of the medical schools throughout the country. We have reluctantly omitted this year to devote a number of the *MEDICAL TIMES* to a full statement of the faculties, regulations, etc., of the different schools. Although we deem it important to make an annual exhibit to the profession of the number and regulations of the Educational bodies, there have been so few changes since our last publication of a Students' Number that we may safely refer to the number of last year for any desired information. But we cannot allow the occasion to pass without a word of exhortation on that most trite of all subjects—medical education.

If there is one question which should preeminently interest medical men it is the rank which the profession takes among other professions, and in the community. Every one is naturally jealous of the position of his caste in society. He rightly feels that his own individual character is involved in the public estimate of his associates. Whatever affects the reputation of the whole in a large degree affects the individual. The medical profession of this country has exhibited a most commendable interest in regard to its social position, and has striven with great energy to improve it. With just discrimination it has apprehended the sources of evil, and has endeavored to remove them. But, although these attempts have failed to accomplish all, they have accomplished much, and every true friend of medical reform should take courage, and redouble his efforts.

The first great defect in our system of medical education is the want of a sifting process in the selection of those who are about to commence the study of medicine. The door is thrown widely open, and every one is admitted to enter. No discrimination is made between the intellectual and the imbecile, the educated and illiterate, the moral and immoral. This grand defect must necessarily invite to our ranks all the floating mass of incompetent young men who wish to enter a learned profession. They have but to take their seats in the classrooms of the colleges to be accredited students of medicine. No question is asked as to their natural or acquired qualifications for the study. They may pass through their entire term without being asked a question as to the progress they are making. But it may be said that they are caught at last when they enter the "Green Room." This ordeal, however, is too often the merest farce. The student who has studied three years, has attended two full courses of lectures, the last of which was

at "this college," and has punctually paid all the fees, is caught by no such dragnet as an examination for graduation. He slips through its coarse meshes without a wriggle. The first step in a reform of our system of medical education must be the preliminary examination of the student. Before he is allowed to matriculate, he must be examined as to his intellectual fitness for the study of an abstruse and all-embracing science, as to his educational preparation for the higher departments of scientific investigation, and as to his moral fitness for high social position. This reform is reasonable, is just, and is absolutely necessary to the elevation of the profession. We may evade this discrimination of the applicants for admission to the ranks of the profession still longer, but we cannot by any other process compensate for the adulteration which it sustains. The schools may enlarge their courses, and increase their facilities for study to any extent, but they can never make qualified medical men of the mentally incompetent, or thorough students of the illiterate.

Important as is this reform to the dignity, scientific character, and social advancement of the profession, and much as the subject has been agitated, we regret that no school has yet had the courage to adopt the plan of the preliminary examination of applicants for admission. The desire to have large classes, a most unworthy ambition of itself, governs the policy of every school in the country. This competition is carried to a most disastrous extent. Instead of excluding incompetent students, they freely admit them; nay more, in some cases they even place a price upon their heads. If the profession desires reform, it must demand it at the hands of the schools. Let the American Medical Association refuse to recognise a Medical College that does not institute such examinations, and faithfully carry them out.

The second defect in our system of medical education is the want of proper facilities in our schools for giving clinical as well as didactic instruction. By clinical instruction we mean what the term implies, viz. instruction at the bed-side of the sick. The student should be personally brought to appreciate symptoms, to diagnosticate and prognosticate diseases, and to employ remedial agencies. He should not only become proficient in the principles of his profession, but he should also become expert in practice. It is possible for every competent student to attain to this degree of qualification, and before he graduates. The profession ought to ask nothing less of the schools. But in order to this the school must be attached to the hospital. Herein lies the basis of true medical teaching. Didactic and clinical medicine must be taught in the same course, on the same day, and by the same teacher. The precept must be at once reduced to practice if we would fix it ineradicably in the mind, and render it easy of correct application in future. It is a false theory which directs the student to complete his education before he attends the hospital. The golden opportunity is thus lost to impress the lesson of science. Besides, of the three or four thousand medical students who graduate annually from our various colleges, how few can become internes of hospitals, even if they seek such positions. The great majority must go forth from the lecture-room to the stern duties of life, unskilled in the art which they are called to practise. The remedy is at hand. Every school must be required to connect itself with a hospital and make thorough clinical instruction a part of its course of study.

A third defect in our system of medical education is a short course of lectures to the students in mass, without any special adaptation of instruction to the wants of the juniors or seniors. The same lesson is taught indiscriminately to the beginner and to the student about to graduate. A radical change is required in this respect. The course of instruction should be extended over the three years, and the class be divided and subdivided according to the studies pursued. Every student would then pursue his studies systematically, under the immediate tuition of the master.

And, finally, there should be an examining board, independent of the schools, which should have the sole power of deciding the question of graduation of each individual student. Such a board would exercise a most salutary influence, being a check to all excesses on the part of the colleges in endeavoring to graduate large classes.

We have hinted at only a few of the more prominent evils in our system of education, and suggested the proper reforms. No one can doubt that they are of vital importance to the well-being of our profession. The reform rests with the schools, but the body of the profession must apply the stimulus. The former will not move unless impelled by the latter. Every medical man who has any regard for the character and position of his profession should bring his influence to bear through some powerful medium, as an association, directly upon the schools.

#### THE WEEK.

It is an interesting fact, not sufficiently understood, or at least regarded, by our army authorities, that many forms of disease of soldiers are curable by simple climatic influences. This is especially true of diseases contracted in Southern latitudes when transported to higher latitudes. Patients suffering from the fevers of the South require a long and tedious convalescence when they remain in the localities where the fever was contracted. The same is true of diarrhoea. We are glad to know that Dr. McDougall, the intelligent and zealous Medical Director of the Department of the East, has long been impressed with this fact, and has endeavored to locate hospitals in this Department with a view to the restoration of patients by hygienic influences. The Central Park Hospital, New York, is a model in this respect. Convalescence from all diseases is more rapid in this hospital than in any civil hospital with which we are acquainted. During the first six months of its existence no death occurred in it, although it had its full share of severe cases. We are glad to learn that this class of hospitals, located in delightful and healthy localities, will be increased. Dr. McDougall proposes to locate another at Burlington, Vt., and we do not doubt it will prove of great value to the sick. It would be a great saving of life and suffering if more hospitals were opened at the North, and Northern soldiers were transported to them when convalescing from severe diseases.

THE following method of ventilating hospital wards has been introduced into hospitals in Australia:—

"The space beneath the floor of the ward has been converted into an isolated fresh-air chamber, supplied abundantly with external air by a large guarded aperture in the wall, and regulated by a pulley door. The pulley chain will be under the charge of the nurse inside the door, and,

by graduated hooks, the admission of fresh air can be increased or diminished systematically. Each bed is elevated on a wide box platform about six inches high, and so much wider than the bedstead as to allow a convenient step for a patient's legs to rest upon. The sides and ends of the platform are panelled with fine gauze wire. A spacious opening through the floor within this special air chamber admits the fresh air from the general air chamber, and a current, almost imperceptible from its extensive division, unremittingly flows through the gauze wire into the ward all round the patient's bed. The vitiated air that rises to the top of the room finds an outlet through an Arnott's ventilator into the chimney, the aperture of exit giving eight inches to each bed. The fresh air in this arrangement will always be supplied on the *plenum* principle in the natural ascensional manner."

By an order from Washington the U.S.A. General Hospital at Fort Schuyler, N. Y., has been discontinued. This was one of our largest and best appointed military hospitals. It was located on a peninsula near the entrance of East River into Long Island Sound, and had a position favorable to the recovery of the invalids from the southern departments. The buildings were pavilions, arranged tangential to an oblong corridor, open at the sides, and securing free circulation of the air. Each ward contained forty-eight beds, the total capacity of the hospital being 1600 beds. The hospital was in charge of Dr. WARREN WEBSTER, U.S.A.

## Reviews.

**SANITARY COMMISSION. ON HÆMORRHAGE FROM WOUNDS, AND THE BEST MEANS OF ARRESTING IT.** By VALENTINE MOTT, M.D., LL.D., Emeritus Professor of Surgery and Surgical Anatomy in the University of New York, etc., etc. New York: 1863. pp. 16.

THIS is the second paper which Dr. Mott has contributed to the army through the Sanitary Commission. We cannot sufficiently admire the professional zeal of the venerable author upon whom age rests so lightly. His opinions upon all surgical subjects are eagerly sought by the profession, and we are glad to welcome these occasional contributions.

In the opinion of Dr. Mott hæmorrhage is a frequent cause of death in the army, either directly or remotely. He says: "It is true, notwithstanding all that has been done by the very admirable surgical and sanitary departments of our immense army, that many soldiers still perish on the field of battle from hæmorrhage, or are so much reduced as to preclude their subsequent recovery. . . . It is a mistake to assume that there is little or no danger of hæmorrhage from gun-shot wounds. Wounds of the large arteries of the legs and arms from balls and fragments of shells, punctured or incised, always bleed more or less at the time of reception, and more freely as the shock to the nervous system passes off and reaction comes on. Even where this nervous shock is not sufficient to produce immediate death, the chances for ultimate recovery most frequently turn on the mere question of loss of blood."

Impressed with the importance of instructing officers and soldiers in regard to the position of the large arteries of the limbs, and the simple methods of arresting hæmorrhage, Dr. Mott was induced to prepare this monograph. The pamphlet is designed therefore rather for the soldier than the surgeon. Several colored plates are given illustrating the position of the large arteries of the limbs. These are followed by a diagram of a tourniquet recently introduced into practice by Dr. A. B. Mott, which is strongly recommended by the author for its simplicity, and for making

compression at opposite points of the limb, thus leaving the venous circulation for the most part interrupted. Dr. Mott strongly recommends its distribution in the army, not only for the arrest of hæmorrhage but for "the moral courage and confidence which the possession of this instrument would give the soldiers. We have seen that in some cases men dread the manner of death more than death itself, and that, in general, death by hæmorrhage is regarded with most horror. We have seen that it was by possessing the power to control hæmorrhage, that Paré infused a brave spirit into the French troops. So the possession of a tourniquet by any soldier who feels competent to use it, supports his courage, and he feels that if wounded in the service of his country his blood will not be needlessly wasted."

Dr. Mott closes his interesting and useful paper with the following noble sentiment, which exhibits the most exalted patriotism:—"In this great struggle whatever is left of my days is at the disposal of my country, whether it be with the sword, or with the knife, or with the pen—on the field of battle, in the hospital, or at home. The lapse of years is beginning to admonish me, that what more I have to say or do for my fellow men must be said or done quickly. And if the exigencies of this conflict should require it, I am ready not only to sustain our army with words of fortitude and hope, but again to don the harness, and make one more campaign of active service in the cause of my country, and devote to her whatever remains of the autumn of my life with its autumnal fruits."

## Army Medical Intelligence.

(CIRCULAR NO. 21.)

SURGEON-GENERAL'S OFFICE,  
WASHINGTON, D.C., Oct. 1, 1863.

THE following instructions concerning the manner of making out the "Accounts of Private Physicians under Contract," are issued for the benefit of all concerned:

1st. Accounts must be made out for periods of one or more complete months, commencing with the date of entry upon service. No account embracing fractional periods of a month will receive attention, unless it appears upon the face of the account either that the station of the physician has been changed or his contract annulled.

2d. Officers certifying to accounts of a "private physician under contract," must give their official title, and state explicitly the capacity in which they are serving; otherwise their authority to make such a certificate may be questioned. E.g., A. B., Surgeon U.S.A., in charge — General Hospital. C. D., Surg. Vols., Medical Director, 1st Division, 2d Army Corps. E. F., Col. 40th Ohio Vols., Commanding Post, Garrison, or Regiment.

3d. The Hospital, Post, Regiment, or Camp in which the services are rendered, must be explicitly stated, and the strength of the command also noted.

When accounts are certified to by a Line Officer commanding a Post, Regiment, or Camp, they must be transmitted to this Office, through the Department Medical Director, and receive his approval.

5th. The mere approval of an account will not secure its passage through the Treasury. The signature of the certifying officer must be placed in the blank space *immediately below the certificate*, and not, as now frequently occurs, in some other part of the account, thus leaving the certificate unsigned.

6th. The dates between which the services are rendered must be accurately stated. Both the *initial and final day* are counted; thus, from "August 20, 1863, to September 20, 1863, inclusive," is not one month, but one month and one day. It should read, "from August 20, 1863, to September 19, 1863, inclusive," being *one month*.

7th. When instruments are furnished to a Contract Phy-

sician by a Medical Purveyor, the kind, and cost price thereof, are to be reported by the Medical Purveyor to this office. The cost price is then deducted from the first account for services rendered subsequent to such reports. The instruments then become the private property of the Contract Physician, and are in no case to be turned back to a Purveyor or other officer without the written order of this office.

8th. When a Contract Physician has been absent from duty, the certifying officer must state the reason and duration thereof.

Contract Physicians are requested to use the blank printed accounts furnished by this office; an abundant supply of which will be issued to every hospital, post, etc., on the request of the Surgeon in Charge or Commanding Officer.

Contract Physicians, who desire it, can have their certificates made payable to any person besides themselves, by simply endorsing on the face of the account:

"Pay to the order of \_\_\_\_\_"

(Signature.) \_\_\_\_\_  
"Acting Asst Surgeon, U.S.A."

The certificate will then be made out, in accordance with such order, and the payee has only to prove his identity in order to receive the money.

The numerous and embarrassing delays in this class of accounts abundantly prove that too great care cannot be exercised, both by the certifying officer and the physician in whose name the account is rendered.

JOS. K. BARNES,  
Acting Surgeon General.

#### ORDERS, CHANGES, &c.

The Board instituted by Special Orders No. 414, September 15, 1868, from this Office, to examine the hospitals in the Department of Washington, will proceed to examine the hospitals in the District of St. Mary, Md., and report in like manner the names of all the enlisted men, whether patients or employees, connected therewith, who are able to join their regiments; also the names of all regular soldiers sick or not. The company and regiment of each man will be given, and also the name of the surgeon-in-charge of the hospital.

Surgeon D. L. Magruder, U.S.A., is hereby relieved from duty in the Department of the Missouri, and will proceed without delay to Louisville, Ky., and will relieve Surgeon A. P. Meylert, U.S.V., in the duties of Medical Purveyor at that place.

Permission, to visit Washington city, has been given to Surgeons H. S. Hewit and A. E. Stocker, U.S.V.

Assistant-Surgeon C. R. Greenleaf, U.S.A., has been relieved from duty at the United States General Hospital, Chestnut Hill, Philadelphia, Pa., and will report without delay to Surgeon J. Simpson, U.S.A., Medical Director, at Baltimore, Md., for duty in his office.

Assistant-Surgeon T. C. Brainerd, U.S.A., is hereby relieved from duty in the Department of the South, and will report in person without delay to the surgeon-in-charge of Chestnut Hill Hospital, vice Assistant-Surgeon Greenleaf, relieved.

On the recommendation of a Board of Officers, convened by Special Orders No. 285, June 27, 1868, from this Office, Assistant-Surgeon C. S. De Graw, U.S.A., will at once repair to this city, and report in person to the Surgeon-General, U.S.A., for assignment to hospital duty.

Assistant-Surgeon-General E. C. Wood, U.S.A., has been ordered to repair to Louisville, Ky., and establish his office at that place, instead of St. Louis, Mo.

By direction of the President, the following officers have been discharged the service of the United States, in accordance with General Orders No. 100, August 11, 1862:—

Surgeon E. D. Dalley, U.S. Vols.

G. B. Twitchell, U.S. Vols.

Surgeon W. W. Holmes, U.S. Vols., is seriously ill, at Hillsborough, Ohio.

Surgeon J. V. Z. Blaney, U.S. Vols., has arrived at Headquarters, Department of Western Virginia, and assumed the duties of Medical Director.

Dr. William Breen, of New York, has been appointed Assistant-Surgeon 8th Regt. U.S. Colored Troops.

Assistant-Surgeon E. F. Bates, U.S. Vols., has been promoted Surgeon. Drs. E. P. Morong of Md., N. S. Barnes of N. Y., James W. Leete of N. Y., G. A. Mursick of N. Y., R. Fletcher of Ohio, N. F. Marsh of Ky., H. Eversman of Ky., and J. M. Study of Ind., have been appointed Assistant-Surgeons of Vols.

Assistant-Surgeon C. M. Worthington, 14th Pennsylvania Cavalry, has arrived in Washington, D. C., from the Libby Prison, Richmond, Va. He reports the arrival of forty-seven surgeons from General Rosecrans' army.

Surgeon H. S. Hewit, U.S.V., has arrived in Washington, D. C., from General Grant's Headquarters, on leave.

Assistant Surgeon Charles S. De Graw, U.S.A., has been assigned to duty in the Campbell Hospital, near Washington, D. C.

Surgeon R. B. Bontecou, U.S.V., has assumed charge of the Harwood Hospital, Washington, D. C.

Surgeon E. B. McCay, U.S.A., has been assigned to duty in the office of the Medical Inspector-General, at Washington, D. C.

The following assignments to duty of medical officers have been made:

Surgeon George E. Cooper, U.S.A., to proceed without delay to Louisville, Ky., and report in person to Assistant Surgeon-General Wood, U.S.A., at that place, for duty.

Surgeon C. F. Campbell, U.S.V., Assistant-Surgeons F. P. Morong, U.S.V., N. S. Barnes, U.S.V., to report in person without delay to Surgeon Charles Sutherland, U.S.A., Medical Director, Department of Virginia and North Carolina, at Fort Monroe, Va.

Assistant-Surgeon J. W. Leete, U.S.V., to report in person without delay for duty to Surgeon J. Simpson, U.S.A., Medical Director, Baltimore, Md.

Assistant-Surgeon G. A. Mursick, U.S.V., to report in person without delay to Surgeon E. O. Abbott, U.S.A., Medical Director, at Washington, D. C., for duty in the Stanton Hospital.

Assistant-Surgeons R. Fletcher, U.S.V., N. F. Marsh, U.S.V., H. Eversman, U.S.V., to report in person without delay to Surgeon W. S. Kine, U.S.A., Medical Director, Department of the Ohio, at Cincinnati, Ohio, and by letter to Assistant Surgeon-General Wood, at Louisville, Ky.

Assistant-Surgeon J. M. Study, U.S.V., to report in person for duty to Surgeon John Moore, U.S.A., Medical Director, Department of the Tennessee, at Vicksburg, Miss., and by letter to Assistant Surgeon-General Wood, at Louisville, Ky.

Surgeon John C. Dalton, U.S.V., has been relieved from duty in the Department of the South, and has reported to the Medical Director, Department of the East, at New York city.

Surgeon John T. Hodgen, U.S.V., has returned to St. Louis, Mo., from a tour of inspection of the troops composing the Army of Arkansas. He tenders his resignation with a view to permit himself to perform more fully his duties as Surgeon-General of Missouri.

Surgeon John M. Robinson, U.S.V., has returned to Clarkburg, Va., from leave of absence, and is awaiting orders; the General Hospital at that place, and of which he was in charge, having been discontinued.

Surgeon James C. Whitehill, U.S.V., is Medical Director of the Army of Arkansas, at Little Rock, Ark.

Surgeon J. W. Lawton, U.S.V., has been relieved from charge of the General Hospital at Gallipolis, Ohio, and is en route to the Department of the Cumberland.

Surgeon B. Beust, U.S.V., has returned to the Department of the South, from leave of absence, and is now sick at Beaufort, S. C.

Surgeon S. S. Mulford, U.S.A., has been assigned to duty at Fort Pulaski, Ga.

Assistant-Surgeon W. Banks, U.S.A., is on sick leave at Covington, Ky.

The General Hospital at Morehead city, N. C., is near completion. It is named the Mansfield Hospital, in honor of the memory of the late General Mansfield, who was killed at the battle of Antietam. It was regularly opened for the reception of the sick on the thirty-first of August last; the wards when finished will accommodate from 800 to 850 patients, with kitchen and laundry appliances sufficient to increase the capacity to 600, at any time the interests of the service may require it. It is in charge of Surgeon J. B. Belangee, U.S.V.

Assistant-Surgeon J. A. White, U.S.V., has arrived in New Orleans, La., and been assigned to duty in the University Hospital in that city.

Surgeon F. Salter, U.S.V., has been transferred from Cumberland Hospital, Nashville, Tenn., to General Hospital, Chattanooga, Tenn.

The General Hospital at Fort Schuyler, N. Y., will not be dismantled until further orders, but will be held in readiness for convalescents until the cold weather prevents its further use.

Sick and wounded soldiers now absent from Memphis, Tenn., on furlough in Iowa and the Northwest, permanently disabled or entitled to examination for the Invalid Corps, will be retained in General Hospitals nearest their homes, for examination for assignment or discharge.

The following cases, in which Medical Officers have been concerned, have been tried by Court-Martial recently.

Assistant-Surgeon Wm. Robinson, 8th Kentucky Infantry, tried for conduct unbecoming an officer and a gentleman, acting in a disgraceful and disorderly manner while in a state of intoxication, found guilty, and sentenced to be dismissed the service of the United States (G. O. No. 180, Dept. of the Cumberland, Aug. 4, 1868).

Surgeon Alfred Wynkoop, U.S.V., tried for conduct to the prejudice of good order and military discipline, and sentenced to be dismissed the service of the United States. Sentence remitted by the President on recommendation of the General commanding the Army of the Potomac, to severe reprimand, and to be published in General Orders, it appearing that the act was one of indiscretion, and not of intentional criminality, and that no evil resulted from it (G. O. 281, A. G. O., Aug. 11, 1868).

Assistant-Surgeon Edmund G. Pugsley, 1st Minnesota Vols., tried for conduct to the prejudice of good order and military discipline, and conduct unbecoming an officer and a gentleman, found guilty, and sentenced to be cashiered (G. O. No. 74, Army of the Potomac, Aug. 15, 1868).

Assistant-Surgeon George Dougherty, 59th Regiment New York Vols., tried for drunkenness, found guilty, and sentenced to be dismissed the service of the United States (G. O. No. 77, Army of the Potomac, Aug. 19, 1868).

Assistant-Surgeon James M. Morrison, 48th Pennsylvania Vols., tried for conduct unbecoming an officer and a gentleman, entailing a non-commissioned officer to leave camp with him without a proper pass, found guilty, and sentenced to be dismissed the service of the United States (G. O. No. 188, Dept. of the Ohio, Aug. 19, 1868).

**THE ART AND HEALTH CONGRESS AT GHENT.**—A congress has recently been held at Ghent for the promotion of art and the extension of sanitary information. This has excited the displeasure of the ecclesiastical authorities, and they have ordered a solemn mass to be performed "as an act of reparation for the blasphemy and impiety" uttered at its sittings. Fortunately, in the present enlightened condition of the inhabitants of Belgium this priestly intolerance will no doubt be treated with the contempt it deserves.—*Lancet.*

## Original Lectures.

### LECTURES ON THE MORBID CONDITIONS OF THE BLOOD.

DELIVERED AT  
THE BELLEVUE HOSPITAL MEDICAL COLLEGE.

PRELIMINARY TERM, SESSION OF 1868-4.

By AUSTIN FLINT, M.D.,

PROF. OF THE PRINCIPLES AND PRACTICE OF MEDICINE.

#### LECTURE III.

*Morbid Conditions relating to Fibrin.—Hyperinosis.—Hypinosis.—Pathological Facts concerning Coagulation of the Blood.—Buffy Coat.*

HAVING considered in the preceding lecture morbid conditions relating to the organized or corpuscular elements of the blood, it remains to consider morbid conditions relating to the other two divisions of blood-constituents, viz. the organic and mineral substances which enter into its composition. Directing attention to the constituents distinguished as organic, the more important of these are *fibrin* and *albumen*. What are the known morbid conditions relating to these constituents? Proceeding to answer this inquiry, the morbid conditions relating to fibrin will first claim attention.

The fibrin is that portion of the liquor sanguinis or blood plasma which solidifies when the blood is withdrawn from the vessels. In its normal state it is a liquid. It solidifies by an inherent process called coagulation. It forms the coagulum or clot which is observed when a quantity of blood is drawn into a vessel and allowed to remain for a few moments. In the process of coagulation the corpuscular elements become imprisoned, and are retained within the clot; hence the red color. Separated from the corpuscular and other constituents, it is an elastic substance more or less resisting to pressure, and, examined microscopically, presents an abundance of minute filaments irregularly distributed and interlaced, forming a reticular arrangement; this is called fibrillation. With respect to its sources and uses physiologists are not agreed, some regarding it as transformed albumen, and constituting *par excellence* a nutritive element of the blood, while others suppose it to be effete matter which is to be excreted. The coagulated lymph exuded in certain inflammations is essentially fibrin, and this is probably the basis of all the exudates. With respect to its capability of becoming organized, after it has exuded and coagulated, pathologists differ. In view of the indeterminate state of our knowledge of fibrin in its physiological relations, the amount of our knowledge of it in a pathological point of view, must needs be limited. The only morbid conditions, as yet well ascertained, have reference to the quantity of fibrin. In certain diseases the fibrin is increased, and in other diseases it is diminished in quantity.

An abnormal increase of the fibrin of the blood constitutes a condition called, after Simon, *hyperinosis*. This condition characterizes acute inflammations. The average proportion of desiccated fibrin in health is about 24 in a thousand parts. In different cases of acute inflammation, the increased proportion is found to vary from 3 to 12 parts in 1000. Cases of acute articular rheumatism present the largest increase of fibrin; pneumonia ranks next as regards this feature, and capillary bronchitis next. The increase of fibrin is not found to bear any relation to the previous health or vigor of the patient; it is not less in the feeble and sickly, than in the strong and vigorous, when attacked with acute inflammation. The increase takes place when inflammation is developed as an intercurrent affection in the course of diseases in which, if not complicated with inflammation, the fibrin is diminished, e. g. the continued fevers. The hyperinosis has not been ascertained to precede

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the development of inflammation. The latter is not the effect of the former, the reverse is probably true; but, with our present knowledge, it is better to say that the augmentation of fibrin is a concomitant of inflammation, a pathological connexion of some kind existing between them. We know too little of the physiological relations of fibrin to understand the nature of this pathological connexion.

Not knowing the nature and extent of the pathological relations of hyperinosis, it is difficult to decide, upon rational grounds, how far this element of inflammation is a source of therapeutical indications. Blood-letting is found to increase the fibrin of the blood, and, hence, is not an appropriate remedy for inflammation, so far as this element is concerned. Animal diet, in health, renders the fibrin more abundant than vegetable; hence, theoretically, farinaceous food is suited to the treatment of inflammations. But in starving animals the fibrin increases above the normal proportion; *ergo*, a great reduction of diet is not suited to the treatment of inflammations. The supposed action of certain remedies in diminishing the fibrin of the blood, appears to be based on the power of effecting the solution of fibrin out of the body. These effects are quite different. The fibrin in the blood is in a liquid state, and its diminution has nothing in common with its solution after coagulation has taken place. To preserve in the vascular system the liquidity of fibrin, in other words, to prevent coagulation within the heart or vessels, is an object in therapeutics, as will be presently seen.

An abnormal diminution of fibrin is called, after Simon, *hypinosis*. This is less frequent than an increase of fibrin, but it probably constitutes a graver morbid condition. It occurs frequently, but not constantly, in the continued fevers, provided they are not complicated with acute inflammation of any part. As a rule, the diminution of fibrin is progressive as fevers advance in their career; and the amount of diminution is in proportion to the degree of exhaustion of the vital forces or adynamia. In the frequent occurrence of hypinosis in these fevers, we have a ground of pathological distinction between them and inflammations.

The decrease of fibrin does not occur as frequently in the eruptive fevers. In variola the quantity is generally above the normal average, which is attributable to the cutaneous inflammation. In rubella it is neither increased nor diminished. In scarlatina it is usually a little below the normal average. It is not diminished in intermitting fevers.

It is difficult to say how far, if at all, the state of hypinosis constitutes an indication for treatment in the continued fevers. It is not improbable that the importance of animal food in these fevers may have relation to this state, and it has been conjectured that the mineral acids are useful in consequence of their tending to increase the quantity of fibrin in the blood.

The foregoing changes relating to fibrin are quantitative. Qualitative alterations are inferred, but they have not been satisfactorily ascertained. It may be rationally concluded that certain morbid characters in exudations denote perversions of fibrin, but the latter have not been demonstrated. For example, the tuberculous exudation has been considered as morbidly changed fibrin. And this view may be probable, but, in the present state of our knowledge, it is hypothetical. The existence of prior blood-changes of any kind, in this or any other exudation, has not yet been proven. In short we have no positive knowledge of morbid changes in the quality of the fibrin of the blood, nor is this knowledge easily obtained, since the characters of this constituent, as it exists in the *liquor sanguinis*, are with difficulty studied. It is obtained, isolated from other constituents, only when coagulated, and it is then in an abnormal state. It is not certain that variations observed in coagulated fibrin, either within or without the vessels, represent morbid changes which existed when it was liquid and in circulation.

Certain of the phenomena pertaining to the coagulation of the blood, without and within the vascular system, are



not only interesting but important in their pathological relations. When healthy blood is drawn from a vein in a full stream, into a vessel of suitable size and form, for example an ordinary quart bowl, the fibrin coagulates within a period varying from five to twenty minutes. In the process of coagulation the organized elements or corpuscles become entangled in the meshes of the fibrin, and, when the process is completed, we have a division of the mass into two portions, viz. the coagulum or clot, consisting of the fibrin and containing the red and white globules, and a liquid called serum, which holds in solution albumen, together with other organic and certain saline ingredients. The clot is usually more or less reddened throughout, by the presence of the red globules. The serum may also be reddened by hæmatin, or it may be transparent. The size, form, and appearances of the clot were formerly supposed to furnish very valuable pathological indications, and the treatment of diseases was in a great measure based thereon; valuable information may, in some instances, be derived from this source, but less than was supposed before the process was as well understood as it now is.

As regards the time occupied by the process of coagulation, there is some variation, under precisely similar circumstances, in different persons in health. It differs in different diseases, and it is affected by a variety of extrinsic circumstances. Other things being equal, the coagulation in cases of acute inflammation is slow. In proportion as the powers of life are reduced, the process is rapid. An abnormal quantity of carbonic acid retards it. If blood be retained for some time in the veins, after the ligature is applied for venesection, before the vein is opened, the coagulation is slow. It is slow if the blood be abnormally aqueous. Alkalies introduced into the veins or mixed with blood after it is drawn, impede and may arrest the process. Hence, it may be inferred that, under certain conditions of disease, excessive alkalinity of the blood may cause delay in coagulation, or account for the blood remaining fluid. The process is also retarded by sugar, casein, and albumen introduced into the blood. It thus appears that diverse conditions of the blood, irrespective of the quantity of fibrin, may affect the time occupied by the coagulation, and even prevent it from taking place. When, therefore, the blood remains fluid, as it does after death in certain diseases, this may not be owing to a deficiency of fibrin, but because morbid conditions interfere with the process of coagulation. And, hence, the quantity of coagulated fibrin may not represent the actual proportion contained in the blood-plasma.

Coagulation does not always occur after death in persons destroyed by lightning, and the electric current passed through healthy blood when drawn from the vessels causes it to remain for a long time fluid. In animals destroyed after prolonged muscular exertion, as when hares are hunted to death, the blood remains frequently, not invariably, fluid. This is true in certain cases after death by apnoea. Fluidity of the blood after death from fevers of a low form is sometimes observed.

But various extrinsic circumstances affect coagulation. It takes place when blood is drawn in a full, large stream, less rapidly than if it flow slowly through a small orifice. When it trickles away it may coagulate almost immediately. It takes place more rapidly if the blood be agitated than when it is allowed to remain at rest. The blood which flows last during a venesection coagulates more rapidly than that which is first received; and the process is more rapid when the blood is received into a wide and shallow vessel than in one deep and narrow. The process is more rapid if the blood be received into a warm than into a cold vessel, and if the inner surface of the vessel be rough or irregular than if it be smooth.

The size of the clot is, in general, larger the more rapid the coagulation, but it is usually under these circumstances soft, loose, and friable. Conversely, if the coagulation be slow, the clot is apt to be small and firm. These points of difference may not depend on the quantity or quality of

the fibrin. In a rapid coagulation the globules are diffused throughout the mass, and this renders it large and soft; but if the process be slow, the globules subside to the bottom, and, under these circumstances, the lower part of the clot is always larger and softer than the upper. If the process be rapidly completed, considerable serum is retained in the meshes of the fibrin; if slowly, the serum is squeezed out, and hence the clot is smaller and firmer. But the quantity of fibrin and the force of its contraction are by no means unimportant in determining the size and consistence of the clot. A large and firm clot denotes an abundance of fibrin, and, also, a faculty belonging to coagulated fibrin, viz. contraction. A large and soft clot, on the other hand, denotes, not an excess of fibrin, but a rapid coagulation, which entangles the globules before they gravitate, and but little power of contraction in the fibrin. The former characters of the clot are characteristic of inflammation, the latter of fevers and cachectic affections.

Under certain conditions the upper portion of the clot presents a layer, more or less deep, of fibrin, which is devoid of the red globules. This layer is of a greyish white color, and has the characters of fibrin isolated from the other blood constituents. It is called the *buffy coat* or *crust*. Great importance has been attached to it as evidence of acute inflammation, and as denoting the propriety of active antiphlogistic measures of treatment, more especially bloodletting. The circumstances under which it may occur were not formerly fully understood, and, consequently, it has heretofore led to much error, and given rise not unfrequently to injurious practice. The preceding considerations will prepare for an explanation of the buffy coat, and for an appreciation of its pathological significance.

Two conditions are specially favorable to the production of the buffy coat, viz. slowness of coagulation and excess of fibrin. The specific gravity of the red globules is greater than that of the liquor sanguinis; therefore, the former sink in the latter. This fact is always illustrated in a clot; the lower portion is rendered black and friable by the abundance of globules, which have gravitated, while the upper portion contains a much smaller number. Now, if coagulation be sufficiently retarded, all the red globules gravitate below the upper portion, and it is then white or buff-colored, that is, it is pure fibrin, in other words, the buffy coat. It is evident that this coat or crust of fibrin devoid of red globules will be deep in proportion to the abundance of coagulated fibrin. Slow coagulation of the blood and an excess of fibrin characterize acute inflammation. Hence, the buffy coat occurs in cases of acute inflammation, and blood presenting it has been styled "inflammatory blood."

But other circumstances may give rise to the buffy coat. If the serum be thin and watery, the specific gravity of the red globules becomes relatively greater, and they sink more rapidly. And if the red globules are much reduced in number, the upper portion of the clot is devoid of them in consequence of their paucity; the proportion of fibrin to the globules is relatively increased, although the former be not actually more abundant than in health. A buffy coat may be produced under these circumstances which denote morbid conditions of the blood, quite the reverse of those belonging to acute inflammation. This fact was not formerly known, and how often patients already suffering from the morbid conditions of the blood which bleeding tends directly to increase, have been bled over and over again because the blood presented a buffy coat, they whose retrospections extend backwards a quarter of a century can best judge. Blood-lettings under the circumstances just stated favor more and more the production of the buffy coat. The various circumstances, already stated, which either retard or promote the process of coagulation, will, of course, either favor or prevent the formation of a buffy coat, such as the rapidity or the flow of blood, size of the vessel, etc.

The cupped appearance of the clot was formerly sup-

posed to indicate intensity of inflammation. Buffed and cupped blood was considered as highly inflammatory. The concavity of the upper surface, or cupped appearance, after the lapse of several hours, is due to the force of the contraction of the fibrin, and the absence of the red globules. Owing to the gravitating of the globules when the buffy coat is formed, it is of less diameter than the lower portion of the clot which contains the globules. Now, the continuity of the exterior of the buffy coat with the portion below, limits the contraction of the superficies, while the central part, not thus mechanically restrained, sinks inward, and, hence, the concavity or cupped appearance. A cupped clot, then, necessarily involves a buffy coat, and it occurs whenever the latter is present, and the force of contraction of the coagulated fibrin is sufficient. The latter condition is not peculiar to "inflammatory blood." It occurs in chlorosis and other non-inflammatory affections, and it is not, therefore, a criterion of inflammation. The concavity or cupped form of the clot causes it to swim in the serum. It is buoyed up like any hollow vessel. Otherwise the density of the clot causes it to sink in the serum of the blood.

In discriminating the buffed and cupped appearance of the blood, as denoting inflammation, or otherwise, the size and consistence of the clot are important. A large, firm clot which is buffed and cupped, is highly significant of inflammation. On the other hand, the buffed and cupped clot, if incident to impoverished blood, is small in size, and, probably, less firm. Does buffed and cupped blood, when it denotes an excess of fibrin, constitute an indication for blood-letting? Certainly not, for blood-letting tends to increase the fibrin and diminish the globules. The propriety of blood-letting must therefore rest on other grounds.

## Original Communications.

### A CASE OF YELLOW FEVER,

WITH POST MORTEM AND MICROSCOPICAL EXAMINATIONS;  
THE YELLOW COLOR OF THE SKIN DUE TO THE PRESENCE  
OF HÆMATOIDINE.

By S. FLEET SPEIR, M.D.,

URATOR TO THE BROOKLYN CITY HOSPITAL.

JOHN WILSON, æt. 25 years, sailor on ship *Swaomie* from Aspinwall,\* admitted July 14, 1863. Service of Dr. D. S. Landon. *Symptoms*.—General pyrexia; vomiting (the vomited matter he said was of a blue color); pain in the head, abdomen, and limbs; mental and bodily prostration; great irritability of stomach; black vomit; tongue deep red at the tip and edges, loaded and dark in the centre; pulse slow; skin yellow; conjunctiva yellow; urinescent; alvine dejections of a tarry appearance. There was also a suppurating wound over the left orbit, received while on shipboard some two weeks previous.

July 15.—Patient failing rapidly; seen in consultation by Drs. Landon, Bell, Crane, and Smith, who pronounced it to be a well marked case of yellow fever. July 16.—Died.

*Autopsy*—three hours after death. Body well formed, emaciated; rigor mortis well marked; surface yellow; some small patches resembling ecchymoses; conjunctiva yellow; blood upon the lips; thighs and nates stained with dark blood, passed by stool; contused wound about one inch in extent upon the forehead, discharging pus; bone beneath bared of periosteum; left eye swollen and ecchymosed. *Brain*.—On removing the calvarium the surface of the dura mater was bathed with pus for a space of about two inches in extent, at a point corresponding with the external wound; pus between the dura mater and arachnoid, and upon the surface of the brain in about the same

extent of surface, but in small quantity. On cutting the optic nerve of the left side pus escaped from the orbit. Small amount of serum in lateral ventricles; the meningeal inflammation did not extend into the substance of the brain. The blood which escaped on cutting the sinuses coagulated immediately. *Thorax*.—Pectoral muscles very dark-colored; a few ounces of bloody serum in the pleural cavity; lungs free from adhesions, contained scattering tuberculous masses undergoing softening. *Heart*.—The pericardium contained from three to four ounces of clear serum; weight of heart 13 ounces; veins upon surface distended with blood. Upon opening the large vessels of the thorax the blood came from them fluid, but coagulated immediately on exposure to the air. Coagulum in right side of heart, very firm and yellow, filling the cavity; small coagulum in the left side; valves normal. *Abdomen*.—Muscles very dark colored. *Liver*.—Fawn-colored; weight 4 pounds 7 ounces; mottled; in some places lighter than in others; cut surface smooth and dry; bile ducts contained small amount of yellow bile; gall-bladder contained black bile. *Spleen*.—7½ ounces, softened. *Kidneys*.—7 ounces, light colored; cortical substance increased; in one of them was a small cyst containing black fluid; supra-renal capsules large and very firm and dark colored. *Bladder*.—Contained a few drachms of turbid urine; mucous membrane ecchymosed. *Pancreas*.—enlarged. *Stomach*.—Contained about twelve ounces of black, sanguineous liquid; its mucous membrane was congested and ecchymosed. The whole intestinal canal was filled with a black, sanguineous liquid. The small intestine contained a living tape-worm six or seven feet long, the lower portion being broken off. Its position was lengthwise, the head towards the upper part of the canal. The mucous membrane of the intestines was ecchymosed in some places. There was entire absence of fecal matter, apparently.

*Microscopical Examination*.—The contents of the stomach and intestines were acid, and contained altered blood corpuscles, and abundant granules of hæmatoidine. *Liver*.—Its cells were large, and some of them fatty, but the greater portion presented the appearance of advanced waxy degeneration; there was abundance of hæmatoidine and a few blood crystals. *Heart*.—Granules of hæmatoidine, muscular fibres undergoing molecular degeneration. *Kidneys*.—fatty; granules of hæmatoidine. *Spleen*.—softened; abundant granules of hæmatoidine. *Pancreas* and *supra-renal* capsules contained hæmatoidine. The skin and conjunctiva contained abundant granules of hæmatoidine, and seemed to derive their yellow color from the presence of this substance. *Blood*.—Some of the corpuscles were found altered and broken down. In the examination of a case of a similar nature, reported in this Journal a few weeks ago, I was led to believe that the presence of hæmatoidine in the skin and tissues might give rise to a yellow coloration of the same, similar to that supposed to be produced by the coloring matter of the bile, in cases of yellow fever, jaundice, etc. The examination of this second case seems to verify such a suggestion.

The pathology of the two cases was very similar. In each the principal lesion was an altered condition of the blood, and its extravasation in large quantities into the alimentary canal, and among all the tissues and organs of the body. In the first case the extravasated blood acquired a very dark color, and produced a purplish coloration of the tissues. In the second case the extravasated blood had undergone changes of a different nature, and assumed a lighter color, producing a yellow coloration of the tissues, and particularly of the skin and conjunctiva.

These examinations were carefully made, and are believed to be accurate. The following conclusions are therefore deduced from them. 1st. This was a genuine case of yellow fever; 2d. Its principal lesion was an altered condition of the blood, and its extravasation among the tissues and organs of the body; 3d. The coloration of the skin and tissues was produced by the extravasation and decomposition of the blood, its hæmatine changing into hæmatoidine,

\* Several sailors from the same vessel have since died of yellow fever.

and producing a yellow coloration; 4th. In cases of "blood disease," characterized by the extravasation of blood among the tissues, the latter may assume a variety of colors, depending upon changes of color during the decomposition of the hæmatine and the presence of hæmatoidine.

The well known changes of color which take place around ecchymotic spots and old extravasations, also the color of the corpora lutea, the yellow softening of the brain, and the varieties of color in pigments, seem to confirm these statements, all of them being due to the presence of hæmatoidine.

Drs. Landon, Bell, and Smith were present at the post-mortem. Dr. Bell has also examined both cases microscopically; he concurs in these opinions.

## OPERATION FOR STRANGULATED HERNIA— RADICAL CURE.

By N. N. HORTON, SURG. 8TH LA. INF.

PETER FOUNTAIN, Private of Co. B, 8th Regiment La. Inf., of African descent, aged thirty-seven years, has had oblique inguinal hernia on the right side for nine years. Previous to enlistment he was a slave. His master objected to his having his present wife, and tied him up by his neck to one post, and his feet to another. In this position he received over five hundred lashes, and in straining to get loose he felt something give way in the groin.

The hernia thus occasioned was completely under the control of a truss until about a month after his enlistment, when he enlarged the breach by slipping with a load while on fatigue duty; since then, by straining much, the intestines would be forced down, and form a tumor as large as a good-sized cocoonut. Heretofore he has been able to reduce the hernia himself, but this time he was unable to return it, and after it had been down forty-eight hours, he applied for medical assistance. Taxis, alone, was tried without success. Chloroform was then administered, but even then the taxis failed to reduce it. I then proceeded to operate with the patient under the influence of chloroform. The sac was opened, and it contained a portion of the omentum and small intestines, which were a good deal congested, with a considerable amount of serous effusion. The stricture was divided, and the parts returned; five sutures were taken, and compress and T-bandage applied. Sufficient opium was given to keep the patient perfectly quiet, and to prevent peritonitis. He was put upon very light diet. The operation was performed on August 17th, and the next day all symptoms were favorable, and there was no sign of peritonitis. Aug. 19th—Still under the influence of opium, and I relieved the bladder with the catheter. Aug. 20th—No untoward symptom. Aug. 21st—No sign of peritonitis; he can relieve the bladder without the aid of the catheter. Aug. 22d—Removed the sutures, the patient was only partially under the influence of opium. Aug. 23d—Wound entirely healed by first intention. Aug. 24th—Bowels moved regularly. Aug. 25th, 26th, and 27th—Doing well, and no sign of the hernia returning. Aug. 28th—Patient is allowed to get upon his feet, and is free from hernia. The patient has been doing duty from the first of September to the present time without a sign of the return of the hernia.

MILLIKEN'S BAND, LA., Oct. 12, 1868.

## CASE OF GUNSHOT WOUND.

By P. J. FARNSWORTH, M.D.,

OF LYONS, IOWA.

In these days gunshot wounds are not uncommon, but it is not often that all the effects can be noted, or that a post-mortem follows. The following is a case in which all the conditions were noted.

An officer, attempting to impound some hogs, was at-

tacked by the owner, and an affray ensued. The officer fired his revolver as the man was coming down upon him. After the shot the hog owner threw down the officer, and wrested the revolver from him. They were separated, but he pursued the officer for thirty or forty rods, then went back for some distance to his hogs, and sank down saying he was shot. The surgeons were immediately sent for, and were on the spot in half an hour. The wound was just at the lower edge of the sixth rib near its sternal end. There was a great amount of prostration, and a complaint of pain at the pit of the stomach. The pain increased at every respiration. Reaction took place slowly, but by the use of stimulants and external warmth he rallied. Copious vomiting then took place. The probe seemed to follow the wound in a downward direction, and we conjectured that the ball might have entered the kidney. Morphine seemed to increase the irritation of the stomach, and small pills of opium were given, which seemed to give relief, and drink and nourishment were retained. The dyspnoea seemed to increase, with tenseness of the abdominal muscles. He was unable to pass his water, and a catheter was introduced, which brought away the urine, normal in quantity and quality.

The man lived from half past ten A. M. until two the next morning, when the difficulty of breathing seemed to amount to suffocation, notwithstanding the lungs appeared to be uninjured. The pulse had been flagging for some time, and the man wandered in his mind.

The post-mortem, twelve hours after death, showed the track of the bullet through the lower edge of the sixth rib, near its cartilaginous extremity; passing through the edge of the left lobe of the liver, it then entered the stomach on its anterior surface, about the middle of the greater curvature, passed through and made its exit near the pyloric orifice, making a large rent from its oblique direction. Thence it passed into the transverse colon, making so small an opening that it was only a mark; about two inches from this point there was another mark, but it looked so like an injury from the inside that we concluded the bullet was in the colon; but on introducing the hand into the cavity of the abdomen the missile was found lying loose near the top of the sacrum. There was but little hæmorrhage, but a large amount of bloody serum in the abdominal cavity. Towards the last hours of his life he had taken a large quantity of fluids, which must have passed directly out of the large opening; the stomach was empty.

The weapon was an eight-inch Colt's revolver; the ball a conical one weighing nearly half an ounce; yet, from all appearance, if the opening at the pyloric orifice had not been oblique there would have been no escape of the contents of the stomach or bowel.

A brilliant success in the way of operative surgery has lately been achieved by M. Maisonneuve at the Hotel Dieu. A patient presented himself in July with symptoms of exophthalmia, which he stated had commenced a year previously, and had been progressing steadily. The ocular protrusion advanced until the organ was completely ejected from its socket, and vision lost. M. Maisonneuve, convinced that the cause of deformity was an exostosis springing from the inner wall of the orbit, by means of a V-shaped incision, the point of which lay upwards and on the middle line, entered the orbit, and, pushing aside the soft parts, reached the bony mass. This with some difficulty was removed by means of powerful forceps, and the protruded organ replaced into its natural cavity. The tumor, which sprang from the ethmoid bone, proved to be as dense and hard as ivory, ovoid in form, and three ounces in weight. The patient recovered without a bad symptom, and, strange to say, eyesight and the power of moving the globe have completely returned. "But for the slight scar on the forehead," says M. Maisonneuve in his report to the Academy of Sciences, "no one would suspect what has occurred."

## Reports of Societies.

### NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, June 10, 1888.

DR. L. A. VOSS IN THE CHAIR.

#### CENTRAL NECROSIS OF THIGH BONE, RESULTING IN DESTRUCTIVE SYNOVITIS OF THE KNEE-JOINT.

DR. KRACKOWIZER presented part of an inferior extremity, removed by amputation from a young man twenty years of age, an hotel-keeper, with the following history:—

The patient had always been in the enjoyment of good health, with no hereditary tendencies. About five years ago he was thrown from his horse, and, according to his account, sustained a fracture of the thigh about its middle. He recovered from this in due time, with a very inconsiderable amount of shortening.

On the sixteenth of January last, while driving to market, the day being extremely cold, he became thoroughly chilled, and when he arrived at home it was not until some time after that he was able to get warm. After he had gone to bed fever came on, which lasted the greater part of the night. He did not experience any pain until the following day, when it attacked his right knee, which by that time had become swollen and red. He was treated by an experienced practitioner antiphlogistically, but without much relief. The evidences of pus in the knee-joint were so unequivocal that the practicability of making an opening into it was broached to the patient, but he refused to have it done. Shortly after this an ulceration appeared on the exterior of the thigh, a little above the knee, and a large quantity of matter was discharged. From that time his health was better, so that by the end of the March following he was able to get about to attend to his business. The patient did not have any regular attendance from the time the abscess opened until the last week in April, when Dr. Krackowizer first saw him. Dr. K. found the patient pale, rather emaciated, and a little feverish; the appetite was somewhat impaired. The right leg was semiflexed and strongly rotated outwards; the head of the tibia was drawn back somewhat, so that with the fibula it made a slight prominence in the popliteal region. The hamstring muscles were somewhat tense, but there was nevertheless some degree of active and passive mobility; he could support the weight of the body upon the limb, and even walk about a little with the assistance of a cane. The appearances of the ulceration previously alluded to were such as to lead Dr. Krackowizer to suspect the existence of dead bone, though nothing of the sort could be detected by the passage of a probe through the opening. The day following chloroform was administered, and a more thorough examination of the parts made, with the assistance of Dr. Voss. The finger introduced into the wound swept freely around the popliteal space, but discovered no sequestrum. It so happened that the limb being twisted upon itself in a particular position during the course of the examination, caused a puffing out of the capsule of the joint by the admission of air, which fact proved that the external opening communicated in some way or another with the cavity of the joint. The day following the examination a pretty active inflammation was set up in the joint, and also in the dorsum of the right foot. The patient residing at such a distance from Dr. Krackowizer that it was impossible to see him oftener than once every second day, another physician was called in in his stead. The patient was not heard of until one month after. He was then very pale and emaciated, and had symptoms of hectic. The extremity was so strongly rotated outwards that the outside of the limb rested upon the bed; at the same time the foot was much swollen, of a purplish hue, and had many small sinuses, through which a great quantity of matter found an exit. The probe touched dead bone in every direction.

The patient's condition not being a very favorable one for amputation, the operation was postponed for a week. The limb was removed through the middle of the thigh. On sawing through the bone at that point it was found to be eburnated and to be the situation of a sequestrum, the upper extremity of which reached further up into the cancellous structure. This rendered it necessary to saw higher up to find healthy bone, when another small cavity was found, a sort of offshoot of the original one, containing two or three small pieces of dead bone. The patient promised to do well.

The opening into the thigh extended into the popliteal space, between the tendon of the biceps and the external condyle of the femur. The posterior portion of the capsule of the joint was found ulcerated at two points. On removing the quadriceps femoris the capsular ligament was found perforated by another ulceration, which gave issue to a large quantity of matter which was accumulated between the thigh bone and the muscle. The knee-joint itself was very much disorganized, but there was no communication found between it and the sequestral cavity, leading to the inference that the inflammation resulting from the presence of the necrosed bone was by contiguity. The probable theory is that inflammation occurred in the joint and in the cancellous structure of the bone at the same time, and afterwards subsiding in a measure, was rekindled in the joint in consequence of the presence of the sequestra. There was nothing interesting in the appearance of the foot.

#### UNGUAL EXOSTOSIS.

DR. KRACKOWIZER presented a second specimen, consisting of the last phalanx of the third toe, which had been the seat of unguis exostosis. He merely exhibited it in consequence of the rarity with which it occurred in that precise situation. A great deal of pain was occasioned by the presence of the growth, and the last phalanx was amputated to afford relief.

STATED MEETING, June 24, 1888.

DR. D. B. CONANT, PRESIDENT, IN THE CHAIR.

#### RARE FRACTURE OF LOWER END OF TIBIA.—GANGRENE OF FOOT FROM TIGHT BANDAGING.—AMPUTATION OF THE LEG.

DR. KRACKOWIZER presented a leg and foot, removed by amputation for gangrene, the consequence of tight bandaging. The patient, a boy, 5½ years old, while at play on the fourteenth of May last, was thrown down, it is impossible to say in what manner, and sustained a very rare fracture of the tibia. He was unable to rise, and was carried into the house, and put to bed. He could raise the foot from the bed, but was unable to make any motion at the ankle-joint. His most comfortable position was with the leg flexed upon the thigh, the thigh flexed upon the pelvis.

The morning following the accident, a physician was called, who pronounced the injury fracture of the fibula, and applied a tight bandage. The boy complained of pain, and passed a very restless night. The next day the physician's attention was called to the bandage, and also to a blueness of the toes, which then existed, but he looked upon it as a trivial matter, and did not interfere. On the third night the pain was intolerable, but still the physician refused to interfere, assuring the friends that the patient would soon be all right. After the third day the patient became more quiet, the toes became darker in hue, and when at the end of the fourth day the appliances were removed, the foot was seen to be fairly gangrenous, while there were unmistakable evidences of severe constriction higher up. On the tenth or twelfth day after the injury Dr. Krackowizer was called in. The parts were then in such a condition as not to warrant an immediate amputation, and the operation was deferred until the seventh of June. Before that the ankle-joint opened, and it could then be seen that the lower epiphysis was detached and adherent to the ligaments of the foot, and

that there was a crack in the bone of the tibia. There was a very oblique fracture of the tibia, commencing on the posterior aspect of the bone, and passing downwards and forwards to the line of the epiphysis—the posterior line stopping one inch above. The fibula was intact. The epiphysis of the fibula was not detached, whereas the opposite was the case with the epiphysis of the tibia. From the condition of the fracture it would be almost impossible to determine its existence from any objective symptoms. The fracture would seem to have been caused by the fixing of the foot, and then a twisting of the body from left to right, and from before backwards. Dr. Krackowizer was inclined to think that the separation of the epiphysis was not due to fracture *per se*, but that the line of fracture extended to the line of junction between the epiphysis and diathesis, and that the reparative processes necessary for a repair of such a lesion were arrested after the first eighteen or twenty hours by the occurrence of gangrene. The fracture was not compound.

DR. BUCK remarked that the variety of fracture was a very rare one. He did not think the fracture could have been diagnosed, though it might have been suspected from the extreme sensibility of the parts, and the amount of tenderness on pressure, together with the inflammatory symptoms following the injury.

He thought, with Dr. K., that the foot had been caught and held firm, while the body acting upon the limb had given it a certain rotary motion of the leg upon the foot. He regarded the separation of the epiphysis as the result of gangrene, and not of the fracture.

#### CANCER OF OMENTUM ASCITES.

DR. KRACKOWIZER presented a second specimen, consisting of the stomach and annexa of a woman, thirty-nine years of age, who died the day before, about forty-eight hours after the operation of tapping. She was the mother of five children, the youngest being fifteen months old, and was always considered to enjoy good health, until about four months ago she began to suffer from weakness and frequent vomiting. This latter symptom became very annoying, but was somewhat relieved by the taking of slight exercise before each meal. It was not until three weeks before her death that she noticed an enlargement of her abdomen, attended with a very considerable amount of pain. Her menstruation during all this time was regular. During the week previous to the operation the pain in the abdomen was so intense that she could get no relief except by placing herself in a prone position resting upon her elbows and knees. On examination per vaginam the uterus was found anteverted to such a degree that the vagina was nearly occluded. There was dulness on percussion all over the abdomen, from the symphysis pubis to the epigastrium. A pintful of water was drawn off, and the walls of the abdomen being thereby rendered lax, a tongue-like process was felt, which was easily recognised as the omentum in a diseased state, and the opinion was given that cancer of that organ existed, and no hope of a successful issue to the case was entertained. She sank and died forty-eight hours after. At the autopsy about a gallon of fluid was found in the abdominal cavity, and in the lower part of the pelvis; and adhering to the different organs were some shreds of recent lymph. There was cancerous deposit in almost all the peritoneal folds. The omentum, liver, gall bladder, stomach, ascending and transverse colon, and vermiform process, were all involved in the cancerous mass. A band of fibrous tissue extended across the lesser curvature of the stomach from the pylorus, and tended in a manner to prevent normal distension of the stomach.

It is stated that DR. JOSEPH WARREN, the distinguished leader in the Revolution who fell mortally wounded at the battle of Bunker Hill, was the accoucheur at the birth of Lord Lyndhurst, just deceased in England, and the venerable Josiah Quincy, of Boston, both of whom were born on the same day at Boston.

## American Medical Times.

SATURDAY, NOVEMBER 7, 1863.

### THE CONSCRIPTION LAW.

THE great national conscription has finally terminated, and we have the general results summed up in the report of the Provost Marshal-General FRY. From this report we learn that the machinery for executing the Enrolment Act is in complete working order. The law as it stands, he states, cannot be made to develop the entire military strength of the nation, and the execution of it has been rendered exceedingly difficult by the efforts made in various ways to resist or evade it, or to escape from its operation. Its fruits, therefore, are not as abundant as they will be from a perfected law and more thoroughly established system of executing it. All the advantages, however, which could reasonably have been expected from the law are accruing.

In his opinion, its general principles distribute the burdens of military service fairly among those liable to bear them, but, he adds, there is perhaps more generosity than justness in some of its humane provisions. He advises certain modifications, which can readily be made by Congress, and then the military strength of the country may, by the direct and indirect operation of this act, be surely and cheaply brought into the field.

He presents the following statistics, with accompanying remarks, which we freely extract. Of those drawn in the present draft, including the 50 per cent. additional, over 80 per cent. have reported in accordance with the orders of the Boards. Of the 20 per cent. who have not reported, many are not wilful deserters, being unavoidably absent, at sea and the like.

Of all examined about 30 per cent. have been exempted on account of *physical disability*, about 30 per cent. have been exempted under the provisions of the second section of the act, or found not liable to military duty on account of alienage, unsuitableness of age, non-residents, etc. Those who are not liable to military duty, and form no part of the national forces, and therefore have been erroneously enrolled, appear in the general reports of the Boards among those *exempted*, because their non-liability to serve could not be established until they came before the Boards. The number of *exemptions* is thus made much larger than it really is.

About 40 per cent. of the men examined have been *held to service*, and have either entered the army in person, furnished substitutes, or paid commutation. About *one half* of those held to service have paid commutation; of the remainder about *two-thirds* have furnished substitutes, and all except a few in transit and a small proportion of deserters from among the earlier substitutes accepted are in the ranks of their regiments in front of the enemy. It is fair to suppose that most of those who wilfully fail to report, and thus become deserters, are physically fit for service; if they had been examined the proportion exempted for physical disability would have been reduced to about 25 per cent. The *proportion of exemptions* would be still further reduced by purging the enrolment lists *before draft* of all cases of manifest unfitness, and of aliens and others

not liable to military duty, as may be done where this system of raising troops is well established.

The Provost-Marshal states that since the present rebellion began about 200,000 soldiers, after entering service, have been discharged on surgeon's certificate of disability. It is probable that at least one half of them were unfit for service when received.

He makes the following comparison:—In Great Britain under the system of *voluntary* enlistments the rejections average over 27 per cent. In France, from 1831 to 1842, the average number of exemptions annually was 94,860; so that, to secure the contingent of 80,000 men, 174,860 conscripts were examined. In this country it appears that of the recruits who presented themselves for enlistment in our regular army in 1852, 70 per cent. were rejected for physical infirmities exclusive of age or stature. Between first of January and first of July last more than *one half* were rejected. These were men who *desired to be accepted*. These proportions are of interest in connexion with the fact that less than *one third* of the drafted men *who desire not to be accepted* have been exempted on account of physical unfitness.

GENERAL FRY takes a flattering view of the integrity of the officials of his department. He says:—"There have been but few cases of incompetency, fraud, neglect, or abuse, in the examination of drafted men." It may be that few cases of fraud have come to his knowledge, but the air is full of rumors in the highest degree detrimental to the character of Enrolling Boards. And we regret to be obliged to acknowledge that many of those rumors, sustained by strong circumstantial evidence, implicate examining surgeons. Substitutes have been accepted with every conceivable external, and easily recognised disability. We have seen a substitute passed by a surgeon to one of our city Enrolling Boards who was upwards of fifty years of age, had the appearance of an imbecile, and who was suffering at the time of enlistment from the following formidable list of maladies, viz. 1. Epileptic seizures repeated every two or three days; 2d. Tertiary syphilis; 3. Large hæmorrhoids; 4. Stricture of the urethra; 5. Varicose veins in both legs. Such manifest dereliction of duty is disgraceful in the extreme, and merits the severest punishment. Not less unfavorably does the statement of the PROVOST-MARSHAL reflect upon our profession, that of the 200,000 men discharged on surgeon's certificate of disability one half were unfit for service when received. But we were prepared for the revelation of these facts. The examination of recruits was too loosely conducted to detect any but the most apparent disability.

In reviewing the experience which we have now gained in the examination of recruits, conscripts, and substitutes, we are inclined to believe that these examinations should be conducted by surgeons of the regular army, at least to a large extent. Whenever places of this kind are thrown open to the public the incompetent will obtain the greater number, and fraud or neglect will characterize their official duties.

#### THE WEEK.

ONE of the most painful sights that greet us in the Army, next to that of human misery, is the suffering of horses. They are subjected to over working and under feeding until no longer able to perform duty, when they are incon-

tinently dismissed the service. Successful efforts have been made by Government to relieve the sufferings of these poor animals, and reclaim them. A large establishment has been opened at Washington for the reception and treatment of horses, where they receive the kindest treatment. It is gratifying to read the arrangements here made for the care and comfort of one of the most useful servants which we have in peace or war:—

"The hospital, however, exceeds in completeness of arrangements, neatness, and comfort, all bureaux of this immense department, and excites not only admiration, but wonder. From an insignificant, imperfect organization, it has merged into a vast establishment, that rivals even the hospitals of our sick and wounded soldiers, and saves each month to the government thousands of dollars. The buildings have been constructed at great expense, nothing that could in any way tend to comfort and speedy cure having been omitted. Connected with each stable is a medical office, supplied with all necessary remedies, bandages, surgical instruments, etc., from which one steps out into a long passage between the stalls upon a floor of clay hardened and whitened almost like marble. Here are horses suffering from wounds of every description, some with broken ribs, some with flesh wounds from shot and shell, some with sabre cuts and bruises, while others shift about uneasily with swollen, bleeding backs, galled by the saddle, or drop their heads from debility and exhaustion. The utmost care is taken in the preparation of their food and in preserving cleanliness. Each animal has a bedding of straw or refuse hay, and is attended with the same regularity that characterizes the treatment in our city hospitals. Wide, shallow troughs are provided, into which the invalids are led and their wounds washed, and gentleness is used towards them to such a degree that each horse seems to appreciate the object of the attendants, and soon submits to the application of remedies as though he rather liked it. Great taste has been displayed in ornamenting the stables with wreaths and other devices made out of evergreens, and the stalls are kept as white as lime can make them. In the warmest weather a cool atmosphere pervades the entire establishment, and in winter one might wrap himself in a blanket and sleep as comfortably on the straw as in the most sumptuous apartment, the ventilation being so arranged that the heat thrown off from the large collection of horses can be carried out through the roof or confined at pleasure. When first established the hospital was supplied with veterinary surgeons; but their method of treatment not proving satisfactory, the old system of simple remedies and unremitting attention practised in the regular army was resumed with marked results. During a period of six months nearly fifty thousand horses were treated in this hospital, of which over one-half were reissued to the army, and during a period of three months the cures under the old style of practice exceeded those of the veterinary surgeons nearly fifty per cent. In addition to this, the enormous expenses incurred to furnish the latter with medicines (which included almost every drug and poison known to medical science) had been reduced to a very small figure, while the horses that are cured enter the field again with constitutions unimpaired by poisons, and as hardy as when purchased by the government. Improvements are constantly being made to the hospitals, and one cannot leave them without experiencing the conviction that, with the advancement in the art of destroying humanity, a new era has dawned upon the horseflesh of the Yankee nation."

THE Floating Hospital in New York Harbor has proved a perfect success. When first organized it met with opposition, and was regarded as a chimerical scheme. But from the period of its first employment to the present it has fulfilled the purpose of its projectors. During its existence the Hospital Ship has been well served. The first medical



officer was DR. ELISHA HARRIS, who directed its construction; the second was DR. A. N. BELL, and the third DR. WALSER. The latter has recently made a report, from which we take the following account:—

"The Floating Hospital, for the establishment of which the credit is due to DR. ANDERSON, of Staten Island, has been in use since 1859—the period at which the Commissioners of Quarantine abolished the Marine Hospital on Staten Island. In its construction, every attention has been paid to the supplying of the wants and insuring the comfort of the patients. The upper wards, containing sixteen beds, are well ventilated and spacious—while in the lower or main decks, thirty-four beds are ready for convalescents or persons in quarantine. The temperature during the most sultry summer days has never exceeded 84° in the upper wards, and 76° in the lower deck. Five degrees to the starboard or port, is the maximum inclination of the ship during the heaviest ground-swell; the rocking of the vessel could not be, and never was, a cause of complaint; equally unwarrantable were the apprehensions from the bilge of the vessel which, open to light and air, frequently renewed, and destitute of saccharine or other vegetable or animal matters, which in their decomposition produce the deleterious and offensive gases (sulphuretted hydrogen), scarcely differed in taste, odor, or color from the water of the surrounding bay. The principal objection, however, to the Floating Hospital, its liability to infection, urged as an almost infallible consequence by the contagionists, has happily proved erroneous, and the most pleasing anticipations of its projector have been fully realized under the most severe tests. Not a solitary case has ever occurred among the employees, notwithstanding their constant contact with the sick; and though mattresses on which some of the most virulent cases died, have been used by myself and others, not the least unpleasant occurrence has resulted from it; our only preventive being the most scrupulous cleanliness on board, and the entire exclusion of everything from infected vessels except the sick in all stages of the disease."

"Up to the present time, one hundred and eighty-five cases of yellow fever have been treated on board, or seventeen in 1859—eighteen in 1860, twenty-seven in 1861, fifty in 1862; seventy-three in 1862, with the aggregate of forty-five deaths."

We are glad to learn that SURGEON-GENERAL HAMMOND has completed his Southern tour of sanitary inspection, and is about to return to his duties at Washington. However desirable it may be for the Chief of the Medical Bureau to visit distant military departments, nothing can compensate his absence during a long interval from the Executive chair. This is especially true when such immense responsibilities rest upon the Department, as at present. The following extract from the London *Medical Times and Gazette* shows what an impression the action of the Secretary of War in regard to the Surgeon-General makes upon the foreign mind:—

"Appointed by the President, in spite of the old routine custom, over the heads of many seniors, he came to his task full of vigor, in the prime of life, and capable of great physical endurance. With a bold hand he surrounded himself with trustworthy subordinates, displacing many whom he did not think equal to the crisis, and proceeded energetically with his work. Large armies had to be provided for, a system of military hospitals to be organized, the examining boards to be reconstructed, and an army Medical school and museum to be founded. Well, in these vast and useful works he seems to have succeeded beyond all expectation, and the confidence of the public in the new system of Medical organization has been warmly expressed, and yet, by the last accounts we learn that he has been sus-

pended from his office, and ordered to a distant service, a commission having been appointed to inquire into the condition and management of his office. No charge against him or reason for the investigation has transpired."

## Reviews.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, FOR THE YEAR 1863. Albany: 1863.

THE Transactions of the Medical Society of the State of New York are increasing in value. The present volume contains many elaborate papers by prominent writers, some of which are important additions to our medical literature. The Secretary, Dr. Willard, who has done so much for these Transactions, is compelled to apologize for a few typographical errors and inaccuracies. These defects are serious drawbacks upon the volume, but we must be charitable towards the Secretary. He receives the manuscript in an imperfect condition and is compelled to run it through the press, like other government printing, without due appointment to correct proof. If the Society desires accurate Transactions it must publish the volume itself. We are, however, content to receive it in its present shape, when we recollect that in its issue it represents the power which the profession has in the State Government.

The subject of President Hun's annual address was the "Influence and Progress of Medical Science over Medical Art." We shall notice this production on another occasion, and therefore pass it for the present.

ARTICLE II.—*Remarks on Hospital Construction, with Notices of Foreign Military Hospitals*, by CHARLES A. LEE, M.D.—Prof. Lee remarks: "No institutions have been so abused and mismanaged as public hospitals. Originating in the purest benevolence, and supported with the most commendable liberality, they have, from faults of site, construction, and management, not only in a great measure failed in accomplishing the objects in view, viz. the recovery of the largest number of sick men in the shortest possible time, but they have even aggravated the very evils they were designed to remove."

The design of the paper is to show the importance of the pavilion hospital. He first alludes to the English commission of inquiry into the condition of the military hospitals: "It is well known that this commission not only effected many most important reforms in the existing barracks and military hospitals of Great Britain, but that it has brought about, also, a complete change in hospital construction, ventilation, and management. When they commenced their labors, the general hospital at Dublin, and the Fort Pitt general hospital, were the only two military hospitals in the United Kingdom in which the pavilion structure had been followed (the latter very defective, inasmuch as the windows were at the ends instead of the sides of the walls); now, the pavilion or block plan, is the only one recognised as suited for hospital purposes, whether general, regimental, or camp or temporary hospitals."

He gives at some length the leading ideas in the organization of military hospitals in England, with the description of several hospitals. The tendency now is strongly to the pavilion hospital. The continental hospitals described at length are the Military Hospitals at St. Petersburg, at Verona, and at Rome. The paper closes with a circular memorandum from the War Office, London, for the guidance of Royal Engineers in the erection of hospitals. The paper is illustrated with diagrams of the hospitals examined. The paper of PROF. LEE is very valuable at this time. It places in an accessible form the latest views of the Europeans in regard to the construction of hospitals for soldiers.

ARTICLE III.—*On the Mechanical Treatment of Pott's Disease of the Spine*. By CHARLES F. TAYLOR, M.D., of New

York.—The design of the paper is to illustrate the author's method of treating the disease by mechanical appliances.

**ARTICLE IV.—On Medical Provision for Railroads.** *Supplementary paper: containing also an analysis of the Bill entitled, "A Bill to provide compensation to passengers for injuries sustained on the railroads of the State; also to provide surgical stations and hospital accommodations on the railroads of the State," read before the surgical section of the New York Academy of Medicine, October 24, 1862.* By E. S. F. ARNOLD, M.D., M.R.C.S.E., of Yonkers, Resident Fellow of the Academy. This article is the sequel of an article presented to the Society last year, and published in the Transactions of 1862. In it the author sets forth at length the argument in favor of proper provision for the care of the injured in railroad accidents, and the efforts to obtain legislative enactments. The subject is one of great importance, and ought to enlist the cordial co-operation of the profession. It has been so fully discussed in this Journal that we need not review the present paper.

**ARTICLE V.—Remarkable Case of Deception.** *A woman professing to secrete nothing but charcoal and stones for a number of years, all the natural functions being arrested. And the deception unmasked.* By LEWIS A. SAYRE, M.D., of New York.—This was one of those disgusting cases of attempt at deception by a hysterical woman which creates such interest among the people. The poor creature seems to have entirely deceived one or two physicians.

**ARTICLE VI.—De Lunatico Inquirendo.** By JULIUS AUERBACH, M.D., of Queens Co.—Dr. Auerbach proposes to the Society the study of the jurisprudence of insanity with reference to an improvement of our laws.

(To be Continued.)

**RESIGNATION OF PROF. H. H. CHILDS.**—At a meeting of the Trustees of the Berkshire Medical College, Henry H. Childs, M.D., the President of the institution, as well as its founder and father, resigned the Professorship of "Obstetrics and the Diseases of Women and Children," which he has held so many years. For nearly forty years he has been the active head of the Berkshire Medical College—his usefulness having extended to a period almost unprecedented. During these years, by his energy, zeal, and enthusiasm, he has achieved a widespread reputation as a medical man, and by his kindness of heart and courtesy of manner, a no less deserved name as a Christian gentleman.

**TREATMENT OF PNEUMONIA BY ACETATE OF LEAD.**—Professor Laudet, of Rouen, in this paper gives the results of his employment of the neutral acetate of lead in 40 cases of pneumonia in Hospital patients, for the most part of weak constitutions. Of these, 37 were cured and 3 died. The dose employed varied from a minimum of 1½ grain to a maximum of 12 grains per diem, the total quantity of the salt administered during the whole period of treatment varying from 7½ to 78 grains, the mean quantity having usually varied from 30 to 60 grains. It was always given in pills, and the mean duration of its employment was six days. The mean duration of pneumonia treated by lead was twelve and a half days. In more than one half the cases the lead gave rise to diarrhoea. At the commencement of the treatment the author recommends that the dose should be from 6 to 9 grains per diem, which induce a rapid and persistent depression of the pulse, and lead to a speedy resolution. Convalescence under this treatment is of speedy occurrence, the appetite being restored as soon as the fever has disappeared, even when resolution has not advanced. Strength is rapidly recovered.—*Bull. de Thérap.*, vol. lxiii., pp. 385-394.

*L'Imparziale* relates that a woman at Florence lately produced four children at a birth. The placenta was single, and had attached to it four cords.—*Brit. Med. Jour.*

## Army Medical Intelligence.

### A MEDICAL CORRESPONDENT

#### IN THE ARMY OF THE POTOMAC.

[Several interesting letters have appeared in the London *Medical Times and Gazette* from a correspondent in the Army of the Potomac. The following contains so many facts of general interest that we extract it.—ED. MED. TIMES.]

"Regimental Surgeons have nothing whatever to do at present. One reason, because few cases of sickness occur; another, the principal one, because when a man does get so ill as to be unfit for duty, he is immediately sent to the Hospital of Division by order of the Medical authorities. This Hospital is established near the camping grounds of the Ambulance Corps. It consists of a dozen Hospital tents under the shade of a huge arbour which the ambulance men have constructed over them. It is a very quiet place, and the patients seem comfortable and clean; they have plenty of attendants, plenty of supplies. There are no iron bedsteads, such as are common in military Hospitals further from the front, but the stretcher makes a useful substitute in the field. A Surgeon with one assistant is detailed in charge. This plan of collecting the sick of a division near the ambulances has proved very useful in the late campaign. There is not a sick soldier in the camp of any regiment; all are inmates of this Hospital. If, then, an order arrived directing us to march immediately, we would have no trouble with our sick. The regiments fall in and march off, and by the time they are in motion the men unfit for duty are lodged in the ambulances, which then bring up the rear of the column, so as to pick up those who fall out exhausted or footsore. At evening the tired men rejoin their regiments, and a night's sleep prepares them for the march next morning, while the sick men, if the movement is to be resumed on the morrow, pass the night in the wagons, but if a halt of a day or two is anticipated the tents are pitched, the stretchers made to do duty as beds, and an impromptu Hospital is formed. The Regimental Surgeons have thus nothing whatever to do except when a man gets sick to see him safely despatched to Hospital. The plan answers very well now when we have but two or three thousand men in our decimated divisions; but when the conscription has filled up our ranks to their normal strength of fifteen or twenty thousand men, every Surgeon shall have, I presume, to attend to his own men. Regimental Hospitals will be re-established, and that of the division broken up, on account of being then too large an affair to work smoothly in the field. Just now in these Hospitals there are but few patients, and the number of those affected with acute diseases is very small; the majority are men who, as the expression is here, have got 'used up' on the late marches, and who are now regaining strength on good diet, quinine, and whiskey.

"When one puts the question to himself—Why have the Medical authorities, by the establishment of these Hospitals in each division, taken the direction of the cases of disease entirely out of the hands of the Surgeons in charge of regiments? it is difficult to arrive at a satisfactory answer. Is it on account of the utility of the arrangement when the army is in motion? Perhaps the idea was originated with that end in view; but why continue the institution now that the troops are quiet in camp? The patients cannot have better attention paid them by nurses, strangers to them perhaps, in Hospital, than by men, their comrades, detailed to the Hospital Department of their own regiment. They cannot be better furnished with supplies than they would be if in charge of their own Medical men, since division and regimental Hospitals are

equally distant from the base from which those supplies are derived. They would have the same air, the same water, and an equally salubrious camping ground in the one case as in the other. It is not to prevent the spread of disease among us by contagion that the sick are in some measure removed from us, for we have no contagious diseases; and the smallness of the percentage of sick negatives the supposition that their removal was intended to prevent any depressing influence their presence might occasion among the troops. Dare we look, then, to the regimental Medical officers themselves for an explanation? Is it that the authorities, who, by the recent suppression of the use of calomel and tartar emetic, showed the distrust they had of the capabilities of these gentlemen, have come to the conclusion that it would be of more benefit to the service for them to lock their medicine chests and turn over their sick for tendance to a man of tried Professional qualifications—the Surgeon in charge of the division Hospital. This is an ugly view to take of the matter, but one is at liberty to look so at it when, knowing that there are men sick, one sees, and has seen for four weeks past, regimental Hospitals deserted, their stewards unoccupied, their attendants drawing rations from their companies instead of on Surgeon's requisition, and their Medical men seating themselves quietly to breakfast while sick call is being beat, aware that it now is but an empty sound. The arrival of the conscripts will, I think, as I said before, put an end to this state of matters. These unwilling patriots, or their substitutes, are already joining us, although as yet in but small detachments. An order has been issued requiring Surgeons to examine and report on the physical condition of every man sent to join their commands. If this order be rigidly carried out it will save an immense amount of expense to Government, and of subsequent trouble to the Surgeons themselves. When this army was first organized, examining Surgeons were very careless, or duped perhaps by roguish recruiting officers. Almost every one who volunteered was accepted, and the consequence was when active service commenced a heavy bill of sickness and mortality. The Surgeons then in the field felt sorely the necessity for a strict examination of recruits, and now, having themselves that duty to perform, it may safely be argued that the physique of the conscript will be far superior to that of the volunteer army when it first entered the field.

"In a late number of the *Medical Times* which reached me, I observed some remarks of yours on the volunteer Surgeons of America, *apropos* of the proscription of calomel and tartar emetic by the Surgeon-General. I have not the article beside me, but I think you jocularly predict that the next edict will be that no more field instruments are to be issued, and that those already in the possession of army Surgeons are herewith ordered to be turned in, since the Surgeon-General believes that the country has derived more harm than benefit from the indiscriminate use of these edged tools. Well, the majority of Surgeons in this army since the battle of Antietam in September, 1862, have been as thoroughly cut off from the use of the amputating knife as if such an order had actually been published and stringently insisted upon.

"Since this civil war has lasted, now two years and a-half, since so many great battles have been fought, and since time and opportunity have been afforded the Surgeons for familiarising themselves with the diseases common in camp, it might be said that surely they now ought to be able to treat skilfully most of the cases which fall under their observation; and, undoubtedly, those who have had these advantages are so. But men who have been in the field since the first outbreak of the rebellion are rarities in camp. There is a continual change going on in the constituents of the Medical force, which prevents it from improving as a body, although the members of it are daily being taught lessons by experience. It is very unfortunate that the army cannot retain in its service the Surgeons it has made. The force, I think, during the last six months

has deteriorated, the skill and attainments lost to it by men leaving the ranks having been greater than the additions brought by those who fill the vacancies. Many Medical men come out, and after a few months' trial of soldiering, get tired of it, just at the time, perhaps, when experience has begun to render their services of value. Others spend a longer or shorter period with the army, when they become prostrated by sickness; they obtain a short leave of absence to recruit their health, and the home comforts they then experience contrast so strongly with the fatigues and privations of camps and campaigns, that when recovered they have not moral courage sufficient to enable them to undertake a return to the field. Others enter the service with the intention of leaving it again after a short time, their object being simply the possession of the commission which they intend using as a reputation trap to snare patients. It was only the other day that, in looking over the advertisement sheet of the *Herald*, I observed a notification to the public of New York city that So-and-So, late Surgeon of the Such-and-Such regiment, had resumed the practice of his Profession, etc. Again, a number of the Surgeons attached to the nine months' and two years' regiments did not return to the army when mustered out, in consequence of the disbandment of their commands at the expiry of their term of service. But the greatest loss the Surgical force in the field has suffered has been caused by the institution of the United States Corps of Volunteer Surgeons. The members of this body are commissioned by the President, and are employed as Surgeons of Divisions, Medical Directors of Army Corps, or are attached to the various military hospitals now so common throughout the country. No inefficient men belong to this corps—that of the U.S.V., as it is termed—the searching examination to which they are subjected before being commissioned obviates all chance of the admission of any but those possessed of superior talents. The Surgeons in charge of regiments hold their commissions from the Governor of that State which has furnished the troops to which they are attached, and their duty is to be with their commands wherever stationed. Now, although the pay in both services is the same, the superiority of the position attracts the best talent in the field to the ranks of the U.S.V. corps. The men who come from civil life to fill the vacancies are but poor substitutes for those we lose. Good men come, as may be supposed, but the proportion of indifferent Practitioners is very large. They are young men of no experience, and of superficial education from the schools; men good, bad, and indifferent from the cities, who, having but poor practices, attempt to better their fortunes by going a-soldiering; men from the country, whose duty for years previously had been to attend midwifery cases. A few creep into the service, too, possessed of no papers but the commission which by some means they have managed to obtain, such as dentists and druggists who have read perhaps a little. But the purest example of ignorance commissioned in the American Medical Service that I have yet met was in the person of one who might have been styled a political Surgeon. The case, I believe and hope, is unique. He had been a politician. He had represented a county in a certain State during the previous session, and to reward him for party services, probably, he had received the appointment. He knew nothing of Medical science, nor of any other science whatever. He was very illiterate. It amused me to look over the books of the regiment, as kept by him. From his Register I learned that *diorhea*, *rhumatism*, and *chills* and *fever* were the only diseases of which he was cognisant, with the exception of one case of *sore leg*. His prescription-book showed that, in his opinion, the compound cathartic pill of the U. S. Pharmacopœia, or, as he ordered it, *pill cat. co. iii.*, was a specific for all the diseases to which the soldier is liable. His ignorance was too gross for him to be able to keep up appearances for any time, and on a gentle hint having been dropped him concerning the existence of a Board of Examiners at Washington, he took sick, and found not the least

difficulty in having his resignation—based upon his ill-health—accepted."

### REPORT OF THE BOARD OF HOSPITALS.

WASHINGTON, D. C., Oct. 12, 1868.

**COLONEL:**—We have the honor to report the completion of the duties assigned to us by your instructions of July 9, 1863, and to submit for your information the general results of our examinations of soldiers for the invalid corps.

Our examinations have been very thorough, and have extended to all ward-masters, cooks, nurses, clerks, bakers, butchers, and assistant-apothecaries; to soldiers in charge of commissary, quartermaster, and medical supplies, and to guards as well as to convalescent and other patients not under medical or surgical treatment.

According to the results of the examinations the soldiers were ordered for duty in their respective regiments, for transfer to the first or second battalion of the invalid corps, or recommended for discharge from the Army. *Doubtful* cases were ordered to be retained in hospital for further observation and treatment, the *PROBABLE* result in each case being indicated in the column of remarks by the words "Regiment," "Invalid Corps," or "Discharge."

It will be seen at once that after the thorough examination above indicated, if the orders were carried into effect immediately the hospital would be stripped of all its efficient force, and none (aside from officers) be left except really sick and those whose wounds were not sufficiently healed or health sufficiently restored to go to duty or into the invalid corps.

This difficulty was met in the following manner: the examinations and decisions were first made without reference to the wants of the hospital. The surgeon in charge was then invited to examine the list for the first battalion, invalid corps, and designate the men who were required for service in the hospital, and all men so designated were at once transferred to the list for the second battalion. That officer was then requested to examine the list of soldiers pronounced fit for duty in the field, and he was authorized to retain in hospital all the men on that list marked by him as essential to the administration of the hospital, "until he could supply their places by convalescents not fit for field service, or by detail from the invalid corps," and this he was required to do as soon as possible.

This list of "men essential to the hospital" was confined to men skilled in putting up medicines, trusty men charged with the custody and issue of public property, skilful surgical nurses, clerks, bakers, butchers, and chief cooks.

In all the hospitals we have examined we have found a large proportion of the ward-masters, cooks, nurses, and clerks, unfit for field service, and very many not even proper subjects for the first battalion. The guards were generally the most able-bodied men about the hospital.

Notwithstanding this general fact, some men are retained in hospitals who are fit for active field service, but the numbers are comparatively small; far too small to account for the complaints which are made concerning the non-return of soldiers to their regiments. We think that many more men are reported for duty before they are fully able to bear the labor and exposure of field service than are unduly retained in hospital.

We find that soldiers "reported for duty" are not sent from the hospitals direct to their regiments, as is required by the War Department, Special Orders, No. 89, current series, but that large numbers are retained for various duties in cities, and that those from the hospitals in the New England States first pass through the convalescent hospital at Bedloe's Island, New York harbor, and *all* are sent to the convalescent camp near Alexandria, Virginia. In very many instances months elapse between the soldier's leaving the hospital and his joining his regiment—months that are passed in service disagreeable to the true soldier, who prefers his regiment, and affording time for the indolent and malingeringer to be returned once more to

hospital. Some men have passed the greater portion of their enlistment in travelling from hospitals to convalescent camps and from convalescent camps to hospitals.

If it can be so arranged that men may be conducted from the convalescent hospital in each city to their regiments without detention and re-examination in convalescent camps, the armies in the field will be greatly strengthened; but if this be done, justice to the soldier requires that medical officers be enjoined to report none for duty who have not been carefully inspected and found fit for the field. We are satisfied that at present many men are reported for duty who are not in condition for the field, and that this is so, is evident from the number of men transferred to the invalid corps at the convalescent camp near Alexandria.

In the performance of the duties assigned to us we have kept steadily in view that the first object in importance was the return of able-bodied men to their regiments, and next so to organize the invalid corps as to interfere as little as possible with the administration of hospitals. We have taken pains to instruct medical officers as to the manner of completing the companies of the second battalion, so as in time to form a satisfactory hospital corps, by adding men qualified for hospital service, and discharging those found physically unable to perform any duty.

The following table exhibits the results of the examinations made by the Board of Hospitals before as well as subsequent to the relief of Colonel D. B. Sacket as a member of the Board:

LOCALITY.	For duty in Regiments.	For First Battalion, Invalid Corps.	For Second Battalion, Invalid Corps.	For further Observation and Treatment.	For Discharge from the Army.	Total.
Washington.....	584	459	199	514	7	1763
Burlington.....	14	8	9	30	3	64
Brattleboro'.....	18	41	24	43	4	130
Boston.....	1	3	4	2	1	11
Portsmouth Grove.....	205	211	126	285	37	864
Hartford, Norwich, and New Haven.....	11	64	47	28	0	145
Newark.....	63	29	35	127	4	258
Chester and Philadelphia.....	538	509	476	370	57	1950
Wilmington and Baltimore.....	543	869	204	244	20	1880
Camp Convalescent, Virginia.....	481	477	72	116	16	1162
Total examined.....	2458	2170	1196	1754	149	7727

We are constrained to report that we have not found one medical officer fully acquainted with the General Orders governing the organization of the invalid corps, nor have we found in any hospital a complete "Invalid Roll." Our examinations have, therefore, in many cases, been extended to a complete inspection of all the soldiers in hospital, instead of being confined to "convalescents, and men fit to leave the hospital, and supposed to be able to go to duty."

Very respectfully, your obedient servant,

Geo. W. GILE, Colonel Invalid Corps.

R. H. COOLIDGE, Med. Ins., U.S.A.

COLONEL JAMES B. FRY,  
Provost Marshal-General, U.S.A.,  
Washington, D. C.

### ORDERS, CHANGES, &c.

Upon the recommendation of a Board of Officers, instituted by Special Orders 294, July 3rd., 1863, from the Adjutant-General's Office, the following officers are hereby discharged the service of the United States, on account of physical disability, with condition that they shall receive no final payments, until they have satisfied the Pay-Department that they are not indebted to the Government.

Surgeon J. P. Wilson, 5th Michigan Cavalry.  
Assistant-Surgeon W. R. Fitch, 32d New York Vols.  
Leave of absence for thirty days has been granted to Acting Assistant-Surgeon M. A. Booth, U.S.A.  
Assistant-Surgeon B. F. Brownfield, 3d Pennsylvania Heavy Artillery,

having been examined by a Board of Medical Officers, and an adverse report thereof, in his case, having been approved by the President, is hereby discharged the service of the United States.

By direction of the President, Assistant-Surgeon R. L. Braden, U.S.V., is hereby discharged the service of the United States, on account of physical disability.

By direction of the President, Surgeon W. W. Holmes, U.S.V., is honorably discharged the service of the United States, in accordance with General Orders No. 100, August 11, 1862, from the War Department.

Leave of absence for twenty days has been granted Assistant-Surgeon A. Waterhouse, 7th Maine Volunteers, on Surgeon's certificate of disability.

Assistant-Surgeon Alfred Woodhull, U.S.A., has been ordered to report in person without delay to Surgeon Charles Sutherland, U.S.A., Medical Director, Department of Virginia and North Carolina, at Fort Monroe, Va.

Assistant-Surgeon C. C. Lee, U.S.A., now on duty in the Douglas Hospital, has been ordered to report in person without delay to the Surgeon-General, U.S.A., to relieve Surgeon E. T. Whittingham, U.S.A.

Assistant-Surgeon Cyrus Bacon, U.S.A., will report in person, without delay, to Surgeon J. Simpson, U.S.A., Medical Director at Baltimore, for duty. As soon as his health will permit, Assistant-Surgeon Bacon will rejoin his station in the Army of the Potomac.

Surgeon E. F. Bates, U.S.V., has been relieved from duty as a member of the Army Medical Board for the examination of Assistant-Surgeons of Volunteers, now in session in Washington, D.C., and Surgeon Thomas Antisell, U.S.V., has been assigned to duty as a member of said Board in his place. On being relieved, Surgeon Bates will resume his duties at the Carver Hospital near this city.

Assistant-Surgeon Joel Morse, 7th U.S. C. Troops, has reported for duty with his regiment at the Birney Barracks, Baltimore, Md.

Assistant-Surgeon Spears, 3rd U.S. C. T. was captured by the rebels at Crawfish Springs, Georgia.

Leave of absence for ten days has been granted to Assistant-Surgeon C. M. Worthington, U.S.V.

Surgeon Joseph R. Smith, U.S.A., has arrived at Little Rock, Ark., and has relieved Surgeon J. C. Whitehill, U.S.V., as Medical Director of the Army of Arkansas.

A Board of Officers, to consist of Lieut.-Colonel R. H. Coolidge, Medical Inspector, U.S.A., and Lieut.-Colonel Oscar V. Dayton, Invalid Corps, is hereby constituted for the purpose of examining all convalescent patients and enlisted men on duty in General Hospitals and Convalescent Camps, for the purpose of organizing the Invalid Corps, and of designating to the Surgeon in charge, those men who are fit for duty or proper subjects of discharge, in accordance with General Orders No. 808, War Department, 1863. In performance of this duty the Board will visit such General Hospitals and Convalescent Camps as the Provost-Marshal-General may from time to time direct, and will be governed by his orders and instructions.

Surgeon H. S. Hewitt, U.S.A., has been ordered to proceed without delay to Nashville, Tenn., and report in person to the Medical Director, Department of the Tennessee, for duty.

By direction of the President, Assistant-Surgeon G. McFarland, 7th Illinois Volunteers, has been dismissed the service of the United States.

A Board of Officers to consist of Surgeon Wm. J. Sloan, U.S.A., Captain R. C. Morgan, Assistant-Quartermaster of Volunteers, and Assistant-Surgeon J. W. S. Gouley, U.S.A., will assemble at New York city as soon as practicable, for the purpose of examining and reporting upon what portion of public property at the McDougal Hospital at Fort Scuyler, New York, shall be transferred to the De Camp General Hospital, David's Island, New York. The junior member will record the proceedings.

Permission to remain in New York city, awaiting orders, has been granted to Surgeon Lincoln E. Stone, 64th Massachusetts Vols.

Upon recommendation of a Board of Officers, instituted by Special Orders 264, July 3, 1863, from the Adjutant-General's Office, Assistant-Surgeon J. H. Hasselpluff, 10th Pennsylvania Vols., has been honorably discharged the service of the United States, with condition that he shall receive no final payment, until he has satisfied the Pay-Department that he is not indebted to the Government.

The resignations of Surgeons Wm. H. Church and J. H. Wythes, U.S.V., have been accepted by the President, to take effect October 26, 1863.

The verbal orders given Surgeon James H. Thompson, 12th Maine Vols., by the Surgeon-General, U.S.A., to await orders in Washington city, have been confirmed.

Surgeon A. T. Augusta, 7th Regiment, U.S. Colored Troops, has been detached from his regiment and ordered to report in person without delay to Colonel William Birney, 3d U.S. Colored Troops, Recruiting and Mustering Officer, for duty as examining Surgeon at the Recruiting Rendezvous for Colored Troops, Baltimore, Md.

Leave of absence has been granted to Surgeon D. Baguley, 1st Virginia Volunteers, for twenty days.

Surgeon J. A. Lidell, U.S.V., has returned from leave and resumed charge of the Stanton Hospital, Washington, D.C.

Surgeon S. D. Freeman, U.S.V., has been granted leave to visit his home on important private business.

Surgeon G. F. French, U.S.V., has been assigned to duty in General Hospital, No. 2, Vicksburg, Miss.

The 20th and 21st Army Corps having been consolidated into the 4th Army Corps, Surgeon A. J. Phelps, U.S.V., late Medical Director of the 21st, has been assigned to duty as Medical Director of the new Corps.

Surgeon E. F. Sanger, U.S.V., has arrived in New Orleans and been assigned to duty in the field with the 19th Army Corps.

Surgeon John C. Dalton, U.S.V., has been assigned to duty as attending Surgeon on sick and wounded officers of Volunteers, and as Medical Director of Transportation in New York city.

Surgeon R. H. Gilbert, U.S.V., has been assigned to duty in the office of the Medical Director at Philadelphia, Pa.

Medical Purveyors have been ordered not to pay contract physicians upon termination of contract, until they present a notification from the Surgeon-General's Office of the final settlement of their accounts.

Assistant-Surgeon Henry Rockwood, 15th Regiment Massachusetts Vols., tried for conduct unbecoming an officer and a gentleman, and conduct prejudicial to good order and military discipline: found guilty of the charges, and sentenced to be dismissed the military service of the United States. (G. O. 69, Headquarters Army of the Potomac, Sept. 14, 1863.)

## Medical News.

At the STATISTICAL CONGRESS recently in session at Berlin it was proposed to form permanent international societies for the relief of the wounded in time of war.

A CONVALESCENT CAMP has been ordered to be established at St. Augustine, Fla., for the benefit of the soldiers of the Southern department who require change of climate.

THE LATE COL. CHAS. R. ELLET, commander of the Infantry to the Miss. Marine Brigade, was a student of medicine on the breaking out of the war. He was born in Philadelphia, about the year 1840, and was the son of the noted engineer, the late Colonel Ellet, the originator of the famous ram fleet.

INCREASE OF TYPHUS IN THE METROPOLIS.—We hear that a large increase has taken place during the last two months in the typhus cases admitted at the London Fever Hospital. The cases, we believe, are generally from the eastern districts of London. It is reported that the number of cases treated has more than doubled since August 1.—*Med. Times and Gaz.*

The *Journal of Psychological Medicine*, which was established in 1848 by Dr. Forbes Winslow, and has since then appeared under his able editorship, is to be discontinued—at least, in its present form. In an amiable and kindly spirit, Dr. Winslow lays down the editorial *bâton*, which he has so long wielded to the satisfaction of his numerous readers.—*Brit. Med. Jour.*

MORE DEATHS IN CENTRAL AFRICA.—Dr. Dickenson died on March 17, from an attack of malignant bilious fever. Mr. Richard Thornton, a geologist, attached to Dr. Livingstone's expedition, died of dysentery and fever on April 21. Dr. Livingstone, in a letter to Sir R. Murchison, says, "the scene of desolation around us reacts on my health badly."—*Med. Times & Gaz.*

THE OPENING OF THE SESSION AT NETLEY.—Upon the 1st inst. the Medical session at the Army Medical School was opened by an Introductory Lecture from Professor McLean at the Royal Victoria Hospital, Netley. The number of Medical candidates is thirty-three, and, besides the numerous medical officers, there was a good sprinkling of the civil element present.—*Med. Times & Gaz.*

MR. BARWELL, of London, in a lecture on hip-joint disease, makes the following accusation against Prof. Gross:—"This plate is borrowed from my work on joint diseases. A similar word will hardly characterize its use by Dr. Gross, of Philadelphia, who in the recent edition, second edition of his 'System of Surgery,' has appropriated this and six other of my illustrations without acknowledgment."

M. REYBARD'S conclusions, in the late discussion on urethrotomy, in the Surgical Society of Paris, are: 1. When the stricture interferes with micturition, is superficial, and of small extent, it may be simply incised. In this way, we obtain a temporary result, which may be also obtained by dilatation; but which is obtained more rapidly by incision, and without accidents. 2. In other cases, where a radical cure is desired, we incise superficially, and dilate largely, once only; this proceeding is expeditious, and gives definite results. M. Reybard obtained, in fourteen cases, fourteen cures without accidents. 3. Deep strictures must be incised largely; and the operation is serious, on account of the deep nature of the incision required. In this deep urethrotomy, M. Reybard has often observed accidents, but has only lost one patient in seventy.—*Brit. Med. Jour.*

## Original Lectures.

### LECTURES ON THE MORBID CONDITIONS OF THE BLOOD.

DELIVERED AT  
THE BELLEVUE HOSPITAL MEDICAL COLLEGE.

PRELIMINARY TERM, SESSION OF 1883-4.

By AUSTIN FLINT, M.D.,

PROF. OF THE PRINCIPLES AND PRACTICE OF MEDICINE.

#### LECTURE IV.

*Formation of Coagula in the Heart and Vessels.—Embolia.*  
—*Thrombosis.—Morbid Conditions relating to Albumen.*  
—*Diminution of Albumen in Albuminuria.—Relations of this Condition to Dropsy.—Morbid Conditions relating to Water in the Blood.—Hydræmia.*

THUS far reference has been had chiefly to coagulation of the blood withdrawn from the body. It may take place in the body, *first*, after having been effused, *i. e.* outside of the vessels, and, *second*, within the vascular system. Blood extravasated into serous cavities, upon mucous surfaces, and into the substance of organs, may form coagula or clots. These will enter into the consideration of the individual diseases which involve hæmorrhage into the different situations just named. But coagulation within the vascular system may be briefly considered in this connexion.

Coagulation may take place during life in the cavities of the heart and in the vessels. Certain of the concretions or vegetations, so called, which are found on the valves and at the orifices of the heart, consist of fibrin deposited, not exuded; in other words, they are small coagula derived from the blood within the cavities. This takes place when the surface at certain points is roughened by the exudation of lymph, or by the deposit of atheroma or calcareous matter. Perhaps it may occur without any previous alteration when the blood is surcharged with fibrin, as in cases of acute articular rheumatism. It occurs in endocarditis, being due in part to the roughening of the membrane by exudation, and in part to the excess of fibrin in the blood. These small coagulated deposits are found in the left cavities of the heart especially, since inflammation and valvular lesions are of much more frequent occurrence in these than in the right cavities, and arterial blood contains more fibrin than venous blood.

The fibrin deposited in the manner just stated may accumulate so as to form masses as large as a pea or bean or even a filbert. They occasion obstruction in proportion to their volume and weight, and they are liable to be torn off by the current of blood, and carried into the circulation. They constitute then *emboli*, or plugs, which carried along the arterial branches with the flow of blood, at length reach a situation where the size of the vessel prevents their passage. Arrested at this situation they obstruct the flow of blood, and may thus give rise to pathological effects dependent on the sudden interruption of the circulation in the parts to which the obstructed vessel is distributed. Much attention of late years has been directed to this source of arterial obstructions, called embolia or embolismus. Apoplectic seizures and paralysis are sometimes attributable to an obstruction of an important cerebral artery thus produced. Emboli or plugs have been found after death fixed in arteries of the brain and in other situations, which have been found to be similar, as regards their gross and microscopical characters, to co-existing fibrinous deposits within the cavities of the heart.

Coagula in greater or less abundance are usually found in the cavities of the heart after death. These have been called "death polypi;" they are found especially in

the right cavities, because the blood accumulates in greater quantity in these cavities. These coagula are in general formed either after death or during the act of dying, but they may be formed during the progress of diseases, and a sudden and unexpectedly fatal termination in certain cases is due to their formation. The accumulation of blood in the right cavities in some cases in which the heart becomes largely dilated may lead to coagulation, and sudden death occur in consequence. So, when the action of the heart is nearly, or for a brief period quite suspended in syncope, this may sometimes occur. It is in this way that Prof. Meigs explains certain cases of sudden death occurring after parturition. The occurrence is a species of accident which may take place in various diseases which may involve over-accumulation of blood in the heart-cavities, weakness of the ventricular contraction, an overplus of fibrin, or a condition of the blood favoring coagulation of the fibrin. In pneumonia it occurs not very infrequently, owing to the high degree of hyperinosis, and the obstruction to the pulmonary circulation.

Can the coagula found in the cavities of the heart under the circumstances just stated be discriminated from those found after death or during the act of dying? The loose, friable, dark coagula so often found are post-mortem formations. And if the fibrin be isolated, but soft, not adherent, not closely intertwined with the papillary muscles and tendinous cords, it may have coagulated during the last moments of life. But if the fibrin be isolated from the red globules, dense, adherent, or closely intertwined with the papillary muscles and tendinous cords, the coagulation has probably taken place at a period more or less remote from the act of dying, and the fatal termination may be attributable to it. The sudden occurrence during the progress of a disease, more especially pneumonia, of great irregularity and feebleness of the heart's action, with dyspnoea, oppression, anxiety, death taking place after the lapse of a few hours from the notable change in the symptoms, and no other cause for the change being apparent, should lead to a strong suspicion of the occurrence of this accident.

The liability to this accident in pneumonia and other diseases, suggests, of course, the inquiry whether measures to guard against its occurrence are available. Why the fibrin retains the liquid state within the vascular system has long been a mooted and obscure question in physiology. Recently Dr. Richardson, of London, has endeavored by a large number of ingenious experiments to show that it is due to the presence of ammonia in the blood. Accepting this explanation as probably true, ammonia is now frequently given as a remedy with a view to maintain the liquidity of the fibrin in the blood, in cases in which there may be reason to fear the formation of heart-clots.

Coagulation may take place in the blood-vessels. It occurs in aneurismal dilatation of arteries. The sac in aneurism is frequently lined with successive layers of dense fibrin. The coagulation is here due to accumulation and stasis of blood. It occurs in phlebitis. The inflammation occasions a coagulum either from the direct action of the inflammatory products on the blood or by altering the condition of the interior surface of the vein, or by both effects combined. The inflamed vein is frequently filled by a clot, and may be permanently obliterated. This occurs in the affection known as phlegmasia dolens. Coagulation in the cerebral sinuses is supposed to be a cause of serious disorder of the intra-cranial circulation in some cases, giving rise to hæmorrhage and serous effusion. Coagulation in the small vessels of the lower extremities is an element in dry gangrene or gangrena senilis, due to weakened circulation and a morbid condition of the arteries. In cachectic persons coagulation may take place in the deep-rooted veins of the extremities, or within the pelvis, without phlebitis. The pressure of a tumor upon a vein may cause stasis sufficient to give rise to coagulation. The immediate effect of coagulation in a vessel is obstruction to the circulation according to the size and situation of the vessel. And as consequences of this obstruction arise cedema, coldness,



weakness of the parts, wasting, and sometimes gangrene. The presence of the clot sometimes excites local inflammation and suppuration, acting like a foreign substance. In some instances the formation of a coagulum leading to obliteration of a vein may be useful, as in cases of varicose, hæmorrhoids, and varicose veins of the extremities. Coagula forming in veins either from phlebitis, or other causes, may be carried along with the current of blood, or fragments may be separated and transported, and, passing into the right cavities of the heart, be driven into the pulmonary artery, and give rise to obstruction of this vessel or its branches. Sudden death may be produced by a mass of fibrin sufficient to cause plugging of the pulmonary artery, and local inflammation with suppuration may occur from the presence of smaller masses in the branches of this artery. This variety of embolia has been called *thrombosis*, and the movable plugs thus derived from the veins are called *thrombi*. It will be seen that emboli found in the left cavities of the heart, or in the arteries, produce obstruction in the arterial tree of which the aorta is the trunk, while the emboli found in the veins, or thrombi, produce obstruction in the pulmonary arterial system.

Having considered the pathological relations of fibrin, I pass to the other of the two most important organic constituents of the liquor sanguinis, viz. *albumen*. This exists in the serum of the blood after the separation of fibrin. It exists normally in a liquid state. It does not, like fibrin, coagulate spontaneously, but may be coagulated by heat or the addition of mineral acids, and is then presented as a white deposit. It is found also in chyle, lymph, dropsical effusions, and in various fluids of the body. It is much more abundant in the blood than fibrin, existing in the proportion of 60 to 70 parts in 1000. The serum of the blood owes to it much of its density, which in health is represented by about 1030. Albumen is doubtless a very important constituent of the blood, but its precise physiological uses and relations are not satisfactorily ascertained. There is reason to believe that it furnishes the pabulum for the development and renewal of the organized or corpuscular constituents, and it undoubtedly constitutes the material for the nutrition of many of the tissues. It has been supposed that the fibrin is formed from the albumen. The two substances are nearly identical as regards their chemical composition.

Albumen is increased in certain diseases, viz. acute rheumatism, pneumonia, pleurisy, etc. But, with our present knowledge, it is impossible to say how much pathological importance belongs to this fact. It does not appear to be uniformly increased in inflammations as fibrin is. It has not, therefore, the same significance as a criterion of inflammation. In short, there are no known special pathological relations of an excess of albumen.

The pathological relations of an abnormal diminution of the quantity of fibrin are more apparent. This constitutes an important condition incident to affections of the kidneys, characterized by the presence of albumen in the urine, or albuminuria. This blood-constituent escaping constantly with the urine, the quantity in the blood is proportionately lessened. Hence, the density of the serum is lowered. Bright reported a case in which the specific gravity of the serum was reduced by a deficiency of albumen as low as 1013.

An important morbid effect frequently follows diminution of the albumen, and, thereby, of the density of the blood. Aqueous or serous transudation is apt to occur into the interstices of the areolar tissue, giving rise to oedema and anasarca, and into the serous cavities. It thus occasions general dropsy. This effect is doubtless in a great measure due to the diminished density of the blood-serum; it becomes unduly aqueous, and filtrates more readily through the tissues. But it is probably in a measure due to an obstruction to the free passage of the blood through the capillary vessels. Experiments have shown that the presence of fibrin and albumen in the blood facilitates its

circulation in the capillary system; hence, when the blood is deprived of a considerable portion of its albumen, it accumulates in the capillary vessels, and the increased pressure favors transudation, or dropsy.

Diminution of albumen has been observed in various cachectic affections, in some cases of inflammation, in typhus, notably in scorbutus, in puerperal fever, dysentery, etc. This condition occurs whenever the body is insufficiently nourished, either from too little or poor food, or defective appropriation from any cause; also whenever there is an abnormal expenditure of blood constituents, as in chronic diarrhoea, copious purulent discharge, etc. The loss of albumen does not bear any constant relation to the number of red globules. It is neither increased nor diminished in chlorosis or anemia. Nor does it appear to sustain any relation to fibrin. Bleeding, which increases fibrin, appears to lessen albumen, but not in a marked degree.

Of morbid alterations of the quality of fibrin we know nothing positive. That important changes in this point of view do occur, is highly probable. But in the present state of knowledge all is conjectural. When the physiologist develops further information respecting the uses of albumen in health, its metamorphoses and its relations to other elements of the blood and to the nutrition of the tissues, the pathologist may hope to understand, better than now, to what extent and in what modes it is involved in disease.

A substance analogous to albumen distinguished by not coagulating under the influence of heat, and imperfectly with the addition of nitric acid, is called *albuminose*. It exists in the blood in the proportion of 4 to 6 parts in 1000. It is found to disappear in the course of diseases in which albumen is diminished. It has no known pathological relations.

Water constitutes a large proportion of the mass of blood, viz. about 790 to 1000 parts. Obviously a certain proportion is essential. If abnormally deficient or superabundant, evils are likely to follow, pertaining to the circulation and to changes in the blood itself. These morbid conditions of quantity are incidental to disease. It is doubtful if an excess of water ever occurs, save as an incidental morbid condition. The quantity of blood, as already stated, is probably not subject to much fluctuation. It is, however, by no means probable, as stated by Lehmann and others, that the mass is never increased nor diminished. In phthisis, and the wasting diseases, it is undoubtedly diminished; and it is probable that the amount is sometimes increased. But, as a rule, its normal fluctuations are inconsiderable. If too much liquid be ingested and absorbed, the augmented pressure within the vessels causes exhalation from the pulmonary mucous membrane, the skin, and more especially the uriniferous tubes of the kidneys, and the balance is speedily restored. On the other hand, if loss be sustained, the deficiency is speedily made good by the absorption of water. In the latter mode the blood may become unduly watery, constituting *hydræmia*. If the globules are reduced in number the space is filled with water. If albumen be drained away the serum becomes watery. Hydræmia, therefore, is a substitution of more or less of the other constituents of the blood by water, and not the blood normally constituted, plus a certain amount of water. It is thus incidental to other morbid conditions of the blood. It is doubtful if water ever remains in excess, while the other constituents continue unaffected. Deficiency of water in the blood in a notable degree, is incidental to epidemic cholera. The density of the blood in this disease is greatly increased; it becomes thick, and is with difficulty circulated.

The morbid conditions and relations of several of the most important of the constituents of the blood have now been briefly considered, to wit, the red and colorless glo-

bules, or the organized elements, the fibrin and albumen of the liquor sanguinis, carbonic acid gas and oxygen, and water. Numerous constituents yet remain to be noticed. Of these some are organic, and others inorganic, or mineral. Of the remaining organic elements, there are the fatty and extractive matters, sugar, and certain principles embraced under the head of excrementitious substances. In the next lecture I shall consider briefly these remaining constituents as arranged in the groups just named.

## Original Communications.

### OPERATIONS ON THE AIR-TUBE.

By CHAS. K. BRIDDON, M.D.,

SURGEON NEW YORK DISPENSARY.

In the following series cases will be found illustrating different pathological changes occurring in the air-passage, and the results obtained by operative procedures made for the relief of urgent symptoms occasioned by the same.

It will be remarked that the local lesions in all these cases were associated with, or dependent upon dyscrasies, and that in at least two classes the systemic conditions were allied in character.

In Cases I., II., III., IV., and VI., the changes were deposits of aplastic material on the free surface of the laryngo-tracheal mucous membrane. In three of these cases it was undoubtedly croupous, and although the deposit was the result of changes which had taken place in the blood, the fatal issue was as certainly induced by the mechanical impediment offered to the free admission of air into the lungs.

In Case III. the operation of tracheotomy afforded immediate and marked relief, and, but for the unfortunate accident which occurred in the obstruction of the canula by a plug of inspissated mucus, it is probable that the result would have been more fortunate. It will be noticed that in this case the operation was done early; in the others, in which the opening was made at a late stage of the disease, I do not think that any relief was afforded.

In the remaining cases of this class the exudation was diphtheritic, and the impression made upon the system was profound. Operative interference yielded no results. The medical gentleman in attendance on Case IV. informed me that after the introduction of the canula the respiration was less labored, and that in his judgment the child died of exhaustion.

The gentlemen in charge of Case VI. reported that their patient was not in any way relieved. In this case no benefit was expected to follow the operation, which was done at the urgent solicitation of the patient and his friends.

The impression made upon my mind by the study of these cases, of others of a kindred character which occurred in the practice of my friends, and my readings upon the subject, has been that operative interference is not likely to influence the result in the cases where diphtheria has invaded the air-tube, and that, to be successful in cases of croup, it must be made early, at a period of the disease when I think the conscientious surgeon will hesitate before he acts, knowing that it is in just such cases that recoveries will not infrequently occur under less harsh treatment.

In the other class represented by Cases V. and VII., the formation of an artificial opening was followed by more decisive results, though cachæmia existed in both these cases, in the one in the form of syphilis, in the other in that of leucocythæmia. The immediate danger to life was occasioned by the mechanical obstruction to respiration which existed in the neighborhood of the laryngeal aperture. In Case V. it is probable that submucous exudation took place around the necrosed laryngeal cartilages.

In Case VII. it is equally probable that the obstruction was caused by exudation of a similar character, but occasioned by contiguous cellulitis.

The reports of Cases I., II., IV., and VI. are necessarily brief. No notes were taken of the cases which were under the control of my medical friends; the other cases were reported by myself.

CASE I.—This occurred in the practice of my friend Prof. Chas. A. Budd. The patient was a boy, aged six years; he was suffering from the effects of croupous exudation in the larynx and trachea. The obstruction had already brought the patient into a condition of asphyxia, and the operation was done as a *dernier ressort*. A double canula was introduced, and the patient was left in charge of Prof. B. I did not see the patient again, but was afterwards informed by the father that the child was in no way relieved, and died in a few hours after the operation.

II.—This case occurred in dispensary practice. The patient, Michael Lynch, aged four years, was in the last stage of croup. Tracheotomy was performed, a double canula introduced, and he was left in the care of Mr. Stephen Clark (now Dr. S. Clark, U.S.V.). When I returned in two hours I found the child dead. It appears that during a paroxysm of suffocative cough the canula had become displaced, and was found afterwards lodged in the areolar spaces between the trachea and thyroid muscles.

III.—Happened in my own practice. I visited the patient, — Lynch, aged three years, on the second of January, 1861, and found him suffering with well marked symptoms of inflammatory croup; he had been troubled for several days with cough and pyrexia, and at the time I saw him, there was some, but not urgent dyspnoea, the cough was stridulous, and had the peculiar metallic tone characteristic of croup. I ordered a warm bath, and an emetic to be followed by mist. ammon. et potassæ chlor. 3d.—His symptoms were aggravated, but still not urgent; he was ordered another emetic, and continuance of the mixture. Five P. M.—I found the child still worse, his lips were livid, face bedewed with moisture, and his extremities were losing their natural temperature. I recommended the operation of tracheotomy. Six P. M.—Visited the child in company with my friend, Dr. Aigner, and several of my students. Dr. A. coincided with me as to the propriety of an operation, and it was immediately proceeded with. The trachea was opened, a double canula, both tubes well lubricated with glycerine, was introduced, and I made arrangements with my students to form relays to remain with the patient through the night; full instructions were given them as to action in emergency, and I saw the patient myself at intervals of four hours. The change which took place after the operation was very gratifying; he breathed freely; his face, no longer livid, was suffused with the ruddy glow of reaction; he eat, drank, and played with his attendants, and everything seemed to indicate a successful issue. At eight A. M., next morning, I received an urgent message, and hurrying to the bedside found my little patient dead. Mr. Geo. Badger (now Dr. Geo. Badger, doing service on David's Island), who was attending at the time, noticed a change occur in the child shortly before eight o'clock, he gasped for breath, and instinctively raised his hands towards the tube. Mr. B. immediately removed the inner canula, introduced a swab provided for the purpose, and sent for me. I reached the house within two minutes after the child had ceased to breathe. I instantly removed the outer canula, when the cause of obstruction was revealed; the extremity of the canula was blocked by an annular mass of inspissated mucus which had been detached, and in an expiration had been forced into the end of the canula, in all probability. When Mr. Badger introduced the swab he forced it from the point where it was impacted, but, of course, it would follow the removal of the swab, and regain the same position in the lesser end of the tube. After removing the outer canula I emptied the trachea of the frothy spume which it contained, by suction with the lips applied to the wound, and then I

alternated insufflation with the postural treatment; this I kept up for half an hour, when finding that both life and all hope of resuscitation had fled, I desisted.

IV.—April 19th, 1862, I was requested by Dr. Bernard Kelly, of Broome st., to open the trachea of a patient of his that was suffering from an attack of diphtheria. I found the child, aged two years and a half, almost asphyxiated, the fauces were covered with exudation, and it was evident that the larynx was also involved, though we were not able to determine how far down the tube the disease had extended. I at once proceeded to the operation, but before I had reached the trachea the child had ceased to breathe. I completed the operation as rapidly as possible, introduced a canula, and inflated the lungs with my lips applied to the opening. After a few inflations the child gasped, and respiration was restored. I advised the frequent removal of the inner canula, the occasional introduction of a few drops of glycerine, and consigned the case to the care of Dr. K. I was subsequently informed by the Doctor that the urgent symptoms of dyspnoea were entirely relieved by the operation; the child survived thirty hours, and appeared to sink from exhaustion.

V.—The history of this case will be found recorded in the proceedings of the Pathological Society, June 25th, 1862. The patient, a Frenchman, aged forty-two, had syphilitic antecedents, and at the time of the operation was dying in a condition of apnoea, caused by oedema of the glottis. The relief afforded by an artificial opening was marked, but the changes occasioned by the destructive ravages of the disease were such as did not permit the removal of the canula. The patient resumed his occupation, and continued to follow it for some months, when he began to suffer from the formation of wads of inspissated mucus, mingled with the debris of tissue. These exudations were thrown out around large masses of necrosed ossified laryngeal cartilages, which, gravitating, lodged, and formed cylindrical moulds of the larger bronchi and trachea. A subsequent operation was performed on this patient, the cavity of the larynx was exposed, and the necrosed alæ were removed; the patient only survived this second operation a few days, and at the autopsy, amongst other pathological changes, the cricoid cartilage was found in a condition of necrosis.

VI.—January 15th, 1863, I was requested to meet Prof. Chas. A. Budd and Dr. Holcomb in consultation on a case of diphtheria, and was desired to come prepared to perform the operation of tracheotomy. The patient, a native of Massachusetts, aged thirty-nine years, had been attacked with the disease two days before. I found him suffering severely from urgent dyspnoea; his face was livid, surface bedewed with moisture, eyes prominent, and all his respiratory muscles were vigorously engaged in the terrible but useless efforts to expand the chest. I observed that the muscles of the neck were most active, those associated with the thoracic walls less so; in fact, the chest itself appeared to be almost motionless, and it was everywhere resonant. In the fauces were several patches of exudation, and I was shown some casts which had been expectorated in the morning, and they were the most perfect of their kind that I had ever seen; arising from a stem half an inch in diameter, they divided and subdivided dichotomously down to casts of the minuter ramifications of the tube.

The opinion was expressed that in all probability he would not be relieved by an artificial opening which would most likely be situated above the obstruction, but the patient himself and his friends desired that it should be done. For a little while after the canula was introduced it was observed that his breathing was less labored, and his countenance became less livid, but relief was of short duration; he gradually sank and died a few hours after the operation.

VII.—*Phlegmonoid Inflammation of Neck; Laryngo-Tracheotomy.*—On the fourth day of May, 1863, I was requested to visit Charles Thomas, aged 19 years, a native of this country, and printer by occupation.

*Previous History.*—Patient came out of Bellevue Hospital on April 28th; he had been an inmate of that institution sixty-nine days, and says that he was treated there for leucocythæmia splenica. The day he received his discharge from the hospital he was out late, and in less than twenty-four hours afterwards began to experience pain in the right side of his neck; it was accompanied by tumefaction, and both pain and swelling went on increasing up to the present date; he has not been able to sleep for several nights, and for the past two days he has not been able to separate his teeth, and has found swallowing even fluids extremely difficult.

*Present Condition.*—General aspect of the boy is bad; he looks as if he were the subject of some dyscrasy, though the anæmic appearance of his face is masked by the suffusion of febrile excitement; the temperature of his skin is exalted, and his pulse is accelerated.

The normal contour of the right side of the neck is obliterated by a diffuse, elastic swelling, which occupies the whole of that region, mounting over the inf. max., and passing across the mesial line in front; it does not feel like the hard, brawny swelling which is met with in the ordinary forms of sub-fascial abscess; there is an element of elasticity about it which I have not observed in the other variety, and which appears to be limited to the tissues superficial to the deep fascia. The impression conveyed to the finger is, that all the parts beneath the fascia are infiltrated with the solid products of inflammation, and at no part of the swelling could I detect fluctuation. The color of the integuments was unchanged; it was tense, white, and glistening.

I was only able to separate his jaws about a quarter of an inch, and in the glimpse that I was able to obtain of the fauces, fancied, but am not certain, that I discovered some swelling which approximated the tonsils, but there was none of the arterial injection met with in amygdalitis. 6th, P.M.—I received a pressing summons to visit the patient, who, I was informed, was suffocating. When I arrived at his house I learned that in the early part of the afternoon his breathing had become very difficult, and that he was no longer able to articulate. I found him suffering from urgent dyspnoea; the fixed condition of his jaws prevented my ascertaining the condition of his glottis, and although I could detect no fluctuation in any portion of the external swelling, I determined to make an effort to relieve him by an explorative incision into its most prominent part. The parts were incised to the extent of an inch and a half over the centre of the sterno-cleido-mastoid, the fascia was divided on a director, and a finger was introduced beneath it, in front of, and behind the posterior border of the muscle, but in no direction was I able to detect the presence of any collection of fluid; the tension of the parts separated the sides of the incision, and it was not necessary to introduce anything for that purpose.

I now directed my attention again to the fauces; by introducing a stout tablespoon I was able to separate the jaws about a quarter of an inch, and by the aid of a bad artificial light, and a clumsy assistant, I was just able to get a sight of the parts. I was in the act of depressing the dorsum of the tongue with the handle of the spoon when I saw a little stream of pus well up in the back of the throat, and in the same instant the boy jumped from the lounge and fell backwards in the agony of death from suffocation. It was evident that the pressure of the spoon handle had ruptured the walls of an abscess, and that it had either opened into his trachea or gained entrance through the natural aperture in quantity sufficient to deluge the air tube. His efforts to inspire were fearful, but they were fruitless, and whilst I was taking out my instruments and explaining in a few brief words the necessity of an immediate operation, he raised himself up, pointing towards his throat, and fell back apparently dead—lips apart and livid, features fixed and motionless. There was not a shadow of a doubt but that all respiration had ceased. Without more delay than was necessary to open the blade

of a knife I made a free incision through the infiltrated tissues in front of the windpipe, which was situated at least an inch and a half from the surface; the condition of the parts resembled that occurring in the brawny perineal swelling met with after urinary infiltration, and in the deeper portion immediately overlying the tube there was a stratum of extravasated blood. I cut right into the thyroid cartilage, and immediately heard air in small quantity pass either into or out of the chest. I could not introduce my finger into the tube, however, until I had carried the incision downwards so as to divide the crico-thyroid membrane and cricoid cartilage; when this was done the fixed muscles became suddenly and spasmodically contracted, and a pretty free inspiration was made. To my great relief I could now hear air freely entering the tube which was introduced upon removal of the finger, and the boy's features, which a moment before were fixed in the vacant stare of death, were once more lighted up with animation. The canula introduced was a double one, of large size, with a movable neck-plate; the management of it was left in charge of a trusty woman, who was directed to remove the inner one at intervals of two hours; he was also ordered to be freely supplied with diffusible stimuli and fluid nourishment. 7th.—His breathing has been free during the whole of the night, and he expresses himself as much relieved; the swelling of the neck does not appear to have at all diminished, and he still experiences the same trouble in swallowing. The inner canula has been removed, cleansed, and replaced every two hours, and before introduction each time it has been lubricated with glycerine; cataplasms of sem. lini pulv. are applied to the neck, and he is fed upon the mist. vini gallici. 8th.—General condition much improved; slept considerable through the night, and feels much refreshed this morning; he still swallows with difficulty, and, when he attempts to do so, a portion of the fluid passes through the wound in the larynx; the surface of the incision made in the side of the neck is covered by adherent exudation, but it does not as yet discharge pus; cataplasms are assiduously applied, in the hope that they may invite such discharge to this point. 9th.—Still continues to improve, takes his noggs well, and says he thinks the obstruction in his throat has diminished; neck appears less swollen, but there has been no discharge from the lateral incision. 10th.—Attention was directed to the left side of the neck. He says it is very painful, and there is some swelling over the sternal origin of the stern. cleid. and mastoid; the part is also tender, but irrespective of this he is doing well. 11th.—Swelling observed yesterday was increased, and as I detected fluctuation an incision was made which evacuated about two ounces of well elaborated pus. I removed the external canula, and found that no union had taken place in any portion of the incision made to reach the air-tube. After I had removed it I occluded the opening in the soft parts with my thumb, but as I found the voice almost inarticulate, and respiration somewhat labored, I lodged it again *in situ*, and determined to let it remain there a few days longer. 12th.—Can separate his jaws to the extent of an inch; fauces not congested or abnormal in appearance; he will not permit me to make a digital examination of his glottis. 15th.—Swelling of the right side of the neck has increased, and deep-seated fluctuation can be detected. I succeeded in establishing a communication between the site of the original wound over the mastoid and the cavity of an abscess situated beneath the deep fascia. The boy's general condition is improving in spite of this additional tax upon his system; he takes fluid nourishment in good quantity, with stimulants and supr. fer. hypophosphit. 17th.—After exploring with a probe, I found that the opening over the centre of the mastoid was not sufficiently dependent, and made another in a more favorable position. 19th.—All the swelling has disappeared, the openings are discharging freely, and he looks altogether a different being; removed outer canula for a few minutes, and found his voice and breathing decidedly improved. 21st.—Removed

both canulas, and, finding respiration unimpeded, did not replace them, but left instructions to be sent for immediately if any embarrassment occurred. 22d.—Removal of tube has caused no inconvenience; he looks very much improved, and says he can swallow much better now than when the tube was in.

After this date the boy steadily improved under the use of good diet, in combination with the administration of ferruginous and other tonics. Obliteration of the openings made in the neck was tardy; it was more than six weeks before the one in the trachea was closed; and at a later period those situated on the lateral aspect of the neck, which had degenerated into fistulous tracts, were still occasionally discharging.

## DEATH RESULTING FROM THE USE OF CHLOROFORM DURING LABOR.

By O. D. POMEROY, M.D.,  
OF NEW YORK.

I was called to attend Mrs. C., aged 40, in labor with her tenth child; nine children living. The pains becoming very severe I administered chloroform, avoiding a full anæsthetic effect, in the mean time labor terminating favorably. There was no cough or any unusual symptoms until the patient began to return to consciousness, a period of about half an hour from the commencement of the inhalation. She then had signs of irritation of the air passages, as evinced by a few moist rales. An opiate was administered, with the hope that this state of things would disappear; this being about 11 P.M. At ten next morning I was summoned in haste to her bedside, and found her breathing with great difficulty; mucous râles were heard throughout the lungs; pulse feeble, with other signs of sinking. Brandy was freely administered, and, after rallying a little, an emetic was given, with the view of relieving the accumulation in the bronchial tubes. It produced no effect, however, beyond a slight emesis. She died in ten or fifteen minutes after. The chloroform was obtained of a reliable druggist, and was manufactured by one of our most respectable chemists.

Upon inquiry of the manufacturers I found that a short time previous (1861) their chloroform was made by a different process, as it was found to be of greater purity. This, however, showed a tendency to decompose upon exposure to the air, giving off free chlorine. At once all in the market which could be found was recalled.

There was no post-mortem, as the friends would not have permitted it had I requested it. All the vital organs, however, seemed normal, and I was unable to assign any other cause of death but the inhalation of the chloroform.

## GUNSHOT WOUND OF BRAIN.

By T. H. STILWELL, M.D.,

SURGEON IN CHARGE OF GRACE CHURCH HOSPITAL, ALEXANDRIA.

COLONEL THOMAS RUFFIN, 15th North Carolina cavalry, aged thirty-seven years, was wounded at the battle of Bristoe Station, by a musket-ball coming from before backwards, striking the skull near the apex, and ploughing along the sagittal suture, a distance of four inches. The skull was bared about two inches, and both tables fractured, making an opening about one-eighth of an inch in diameter. Patient perfectly conscious, no paralysis of any muscles of the body. No pain was complained of, appetite good, pupils natural and regular. Had full power over sphincters, was perfectly conscious, bowels constipated, pulse good. Urine passed freely and voluntarily the day following his admission. Delirious during the day a few moments at a time; would attempt to raise himself from his bed, and tear dressings from head. Free evacuations of bowels, fæces and urine passed voluntarily. Patient continued in this state until two minutes before death, when he commenced breathing stertorously, and died.

**Post-Mortem Examination.**—The whole of the vessels of the scalp much congested. There were two apertures near the apex of the skull, one about one-eighth, and the other one-quarter of an inch square, extending through both tables. Upon removing skull-cap it was found that its inner table had been shattered around the apex, about one inch and a quarter in diameter, and the pieces deep into the brain matter. Two pieces, three-quarters of an inch in diameter, embedded in the dura mater, and about two ounces of blood found in the base of the skull with cerebellum. Upon removing the dura mater found two clots of blood, about two and a half fluid drachms each, lying on the left lobe of the brain, and about three ounces of purulent mucous fluid. The brain matter of the left lobe was cut up, making an opening two inches in diameter, extending from the external opening of the wound to the left lateral ventricle, and several pieces of bone varying from one-quarter to one-eighth of an inch in diameter, found along this opening, and into the left ventricle. In the right lobe directly under the wound and on a level with the corpus callosum was found a piece of the bullet, flat, and one half of an inch in diameter, deeply imbedded, and the course from the external opening of the wound in the skull to the left ventricle was discolored.

## Reports of Societies.

### NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, June 24, 1888.

DR. L. A. VOSS IN THE CHAIR.

#### CHRONIC PNEUMONIA IN A CHILD, ENDING IN ABSCESS OF THE LUNG.

DR. KRACKOWIZER also presented the portion of a lung removed from a child twelve months old. When about seven months old, last February, the patient suffered from an attack of measles, and two months subsequently, when first seen by Dr. Krackowizer, was found suffering from pneumonia of the right lung. This condition of inflammation continued until the end of the April following, the child during all the time growing thinner and being subject to profuse perspirations. On April 18th the child vomited up a large amount of purulent matter, which was followed by a contraction of the lower portion of the right chest. There was then increased resonance on percussion all over the contracted portion, metallic tinkling, and other evidences of a large cavity. The opinion given was that a cavity in the lung had discharged itself, but on account of the contraction of the chest it was concluded that no pneumothorax existed. Dr. Jacobi, who saw the child at that time, confirmed that view. The patient lingered on until June 22d, when it died of exhaustion. There was no examination of the chest made during the last month of life, as the patient was in too feeble a condition to allow of it.

On post-mortem examination the left lung was found adherent to all parts of the pleural cavity, except at one circumscribed spot, where a collection of pus was found which communicated with the cavity in the lung tissue. Both lungs were studded throughout their whole extent with hard tubercles, as was also the case with the bronchial glands. The case was remarkable as one of pneumonia lasting such a length of time, and also interesting in respect to the question of diagnosis, it being evident that at first the abscess discharged itself through one of the bronchial tubes, and that it afterwards perforated the lung into the pleural cavity, giving rise to circumscribed empyema.

DR. NOYES presented the eyeball of a soldier, aged 20 years, who first came under his observation five days previously. The patient had been in a military hospital for some time for treatment of necrosis of the bones of the

foot, and at a certain period, which he could not designate, his eyesight became destroyed. About three weeks before presenting himself to the Eye Infirmary he stated that a white spot made its appearance on the outer surface of the right eyeball, and soon afterwards something broke inside the eye. When Dr. Noyes first saw him the lower half of the eye was inflamed; there was, however, no ecchymosis of the conjunctiva. The iris was inflamed and pushed towards the cornea. When the eyeball was directed strongly upwards a tumor was discovered on its lower portion. The conjunctiva and sclerotica had been destroyed over its most prominent portion. At that time he had not the slightest perception of light. The ophthalmoscope threw no light on the case. In the course of the next few days the symptoms became more aggravated, the size of the tumor increased, and it was decided to make an incision into its substance. This procedure was followed by no good result. Thereupon it was decided to remove the eye at once, which was done. On dissection of the eye after removal it was found that the retina had been completely separated from the choroid, and that the vitreous humor had been absorbed. The tumor was found to be connected with the choroid and sclerotic coats; and it was also evident that by inflammatory agglutination it had found its way through to the external surface of the eyeball. Upon the retina there were seen numerous white elevations, the size of a rape seed. Too hasty a microscopical examination of the tumor was made to decide upon its composition, though the appearances presented were very suspicious of cancer.

DR. SANDS thought that it was probably cancerous, from the fact that the tumor had invaded the sclerotic coat and passed through it.

#### INVAGINATION.

DR. JACOBI presented two specimens of invagination of the intestine. The first had the following history: It was taken from a female child, four months and a half old, who, up to five days before death, had enjoyed good health. She was then seized with diarrhoea, attended with a slight discharge of blood and some tenesmus. Subsequently vomiting came on after the taking of food. The child remained in about this condition for the succeeding four days. During that time she became somewhat emaciated, and the pulse became feeble. At first the treatment consisted of purgatives, but when the attending physician diagnosed the true nature of the case, it was changed. Dr. Jacobi saw her about this time, and made use of every means to reduce the invagination, such as holding the child by the feet, resorting to injections of warm water, and of gas, but with no avail. A tumor was at that time detected in the left inguinal region. The child died in a convulsion.

The autopsy was made sixteen hours after death. There were a few ounces of serum found in the peritoneal cavity. The invagination commenced about six inches above the anus, and measured about four or five inches in length. As was usual in cases of intussusception in early infancy, the invaginated portion commenced in the small intestine, the ileo-cæcal valve being implicated, and the whole forming a hard tumor. The upper end of the mass showed slight evidences of injection. There was present also some slight general peritonitis.

The second specimen of intussusception was taken from a child five years of age, who, during her whole lifetime, was intensely cyanotic. On the third day before her death she became soporose, and was never roused from that condition. About forty-eight hours after this symptom made its appearance she was seized with a diarrhoea, the passages consisting of serum and mucus, mixed with a very small amount of blood; at the same time she showed symptoms of tenesmus. The child had, during the last twenty hours previous to death, from ten to fifteen passages of the nature described. She vomited a few times during her illness, and died from sheer exhaustion. On

post-mortem examination the invaginated portion was found to consist of the lower portion of the small intestine, the ileo-caecal valve, the ascending, and a portion of the transverse colon. The period during which this invagination continued was about twenty hours, and in consequence of its short duration there were no symptoms of peritoneal inflammation present.

The question arose as to the possibility of this invagination being produced during the agony, but inasmuch as all the symptoms of the accident were present during life, Dr. Jacobi concluded that it was due to other causes.

The cause of the cyanosis was due to the pulmonary artery, absence of one-fifth of the septum of the ventricle.

#### CONGENITAL CANCEROUS CYSTIC HYGROMA.

DR. JACOBI presented a third specimen, a cancerous tumor, removed from the sacral region of an infant about sixteen months old. Dr. Jacobi saw the child when but four months old. There was then a tumor on the right gluteal region, extending over the median line a little to the left, evidently (at least in part) consisting of a cystic growth. The child was not seen by him afterwards until the post-mortem examination. The tumor had then very much increased in size. Part of the mass had undergone degeneration and suppuration; the remaining portion was made up of a number of cysts, which were filled with fluids of various consistencies, and separated from each other by pretty solid tissue. The tumor had its origin on the anterior portion of the os coccyx, and, thus the lower portion of the sacrum, and this bone, were pushed upwards, and the anus was pushed forwards to that extent that the perineum was made very short. The microscopic examination of the tissue of the tumor showed it to be cancerous. Dr. Jacobi thought that it was a case of congenital cancerous cystic hygroma, of which he had been able to find but one other case in medical literature.

#### MORBUS COXARIUS—NECROSIS OF HEAD OF FEMUR.

A fourth specimen was the head and neck of a femur, removed post-mortem from the body of a girl aged seven years. The patient about a year ago fell down a flight of stairs, and some time afterwards was brought to Dr. Jacobi's clinique in the first stages of hip disease. She was treated by extension, and seemed to improve for a time. A few months elapsed, and she was again brought in in the second stage of the disease. The treatment was continued, and she again seemed to recover, but was a third time brought back, when a tumor was discovered a little within the median line of the femur and about an inch below the greater trochanter. An incision was made into this swelling, and a large amount of matter evacuated. No communication could be detected into the joint. On the fourth day after the operation the child died of scarlet fever.

On post-mortem examination the head of the femur was found necrosed in several places. The cartilage of incrustation was destroyed, and the acetabulum was found carious, with the exception of its anterior and lower portion.

DR. POST stated that it was remarkable that the head of the femur should be necrosed and not carious.

DR. CONANT remarked that Dr. Sayre had presented a case of morbus coxarius where the same condition of things existed.

M. TROUSSEAU has astonished the French medical men by demanding permission to retire from his clinical chair. "This professor, still so fresh in mind and body, so zealous, and devoted to the instruction of students, whose lectures are so largely attended, is, we are told, fatigued, and requires rest. His pupils, however, see things differently. A petition has been got up by them, and already covered with signatures, calling upon the minister not to accept his resignation."—*Brit. Jour.*

## American Medical Times.

SATURDAY, NOVEMBER 14, 1863.

### HUMANITIES AND INHUMANITIES OF WAR.

A LONDON Medical Contemporary, which frequently quotes dubious newspaper paragraphs reflecting upon our Government, or the people of the North, protests, in the name of humanity, "against a kind of warfare which no Government, claiming to be recognised amongst Christian nations, has a right to practise." The first of the "series of outrages" which has so moved the sympathies of this British philanthropist is an "order issued (at Norfolk, Va.) that no physician shall practise his profession who will not take an oath of allegiance." Though we are not acquainted with the facts upon which this order was based, we do not doubt its justice. Military necessity doubtless led to an order requiring all persons pursuing business to be loyal men, and we see no reason why medical men, as a class, should be exempt, and especially the physicians of that city. We have never heard a rumor even of unfairness in the military administration of GEN. VIEL, and were the facts known we do not believe that even an Englishman would cavil at this order.

The second outrage is stated as follows:—"The State of Virginia has an insane asylum at Williamsburgh. When that town fell into the hands of the Federals there were three hundred lunatics in the asylum. The physicians, keepers, and nurses were driven away, and the friends of the inmates forbidden to see or minister to them. The institution was placed under military rule, and the management assigned to army surgeons, with common soldiers for nurses; and word was sent that if any attack were made the 'poor lunatics' would be turned out and sent to Richmond, where was neither room nor accommodation for them." We happen to know something about this lunatic asylum and its management both by the rebels and the federals. The asylum was taken possession of during the peninsular campaign, a surgeon placed in charge, the nurses retained, and a full supply of hospital and other stores furnished. The building was also improved in its internal arrangements, and the institution was placed in a better position than previously. During the following season the rebels made a raid upon the town of Williamsburgh, sacked the asylum, stripping it of every movable article, taking with them also all the old nurses. The "poor lunatics" were left in a perfectly destitute condition. Word was then sent that if this act were repeated the inmates would also be sent to Richmond. The asylum was reprovided and has remained unmolested from that time, and we have the testimony of DR. NICHOLS of the National Insane Asylum, and DR. GRAY of the New York State Asylum, who have, at different times, been directed by the President to inspect the institution, that it is well provided and well managed. This charge of inhumanity against our Government, couched in high-sounding phrases, and seasoned with complacent reflections upon the humane character of the English wars, has not the least foundation in fact. War is essentially the very perfection of barbarism. It aims at the destruction of human life by such means as almost neces-



sarily cause the largest amount of human misery. Its weapons are designed to destroy life, or, failing in this, to maim, and bruise, and cripple an antagonist. And if an enemy cannot be destroyed outright, he may be stabbed, or burnt, or drowned. War respects neither life nor property. In every aspect in which we may view it war is cruelly and relentlessly destructive of everything held sacred among men. All history teaches us the truth of these statements. Large armies will commit acts of vandalism, however strict be their discipline. Governments must also enforce decrees that on their face are repugnant to the popular sentiment in times of peace. England stands forth as the highest type of civilization, and yet no nation ever exhibited more of the ferocity of war. The American revolution was marked by acts of inhumanity which still make the young tremble when they listen to their repetition. In Boston, in New York, and in every city where they enforced military rule, they disregarded the amenities of civilized life. The medical profession, like other kinds of business, was placed under the most rigid surveillance, and no one could practise but the loyal. We need not allude to the sufferings in the prison ships, to the horrible atrocities practised by savages upon defenceless women and children under direction and pay of the English, to the cruelties of the East Indian wars, or to the extermination of entire towns in Ireland by English armies. These facts are among the records of history. They teach the lesson that war, however civilized the people engaged, is destructive of the material interests of man.

And yet war may have a coloring of humanity. Justice and mercy may go hand in hand upon the same bloody battle-field. An erring son may raise his parricidal arm against him to whom he owes implicit obedience, and the same parental hand that inflicts the corrective chastisement may bind up the wounds which itself had made. So, near the scene of carnage where hosts contend against hosts, animated by the most fiendish and cruel passions, we may find the gentlest ministrations of mercy. Friend and foe alike receive succor. The same hands administer to the relief of every one who requires aid.

The war on the part of our Government is the first in the history of civilization where every possible effort was put forth to mitigate its horrors. While our armies are pushed forward to the speedy accomplishment of their great work, they are supported and encouraged at every step by the medical department bearing all that is necessary to their comfort and health. In the terrible struggle on the battle-field the wounded receive early and tender care. Nor is this solicitude confined to the soldier of the Government; the wounded rebel is equally well provided for. In the hospital the loyal and disloyal are placed side by side, and share the same attentions. The Sanitary and Christian Commissions are great auxiliary bodies in the care of the sick, and are the direct medium through which the people communicate with the army. Neither of these associations distinguishes between the Northern and Southern soldier.

But we need not dwell on these facts, so often presented in these pages. War in its mildest state is the greatest scourge that can be inflicted upon any people. But we believe it is conducted in this country as humanely as it is possible under any circumstances. Life is sacrificed on an enormous scale, but not more than in other wars of equal magnitude. Acts of individual barbarism are committed,

but they are the exception, and have no sanction from Government. History will not fail, we are persuaded, to give to our Government due praise for its persistent efforts to mitigate the rigors of war.

### THE WEEK.

THE success of the Sanitary Commission in the Western Department has been most encouraging. Large and most timely supplies have been sent to the different armies, and on the great battle-fields the Commission has been foremost in supplying aid. Much of the efficiency of the Commission in this department is due to the energy and executive ability of Dr. NEWBERRY. He has so organized and distributed labor as to have active co-operation at any desirable point. The people do not seem to tire in their efforts to sustain this noble charity.

IN his address before the Social Science Association, Dr. CHRISTISON contended that there was not sufficient evidence to prove that deficient drainage produced fevers. Foul air may predispose to fever, but the exciting cause must be sought elsewhere. The following, in regard to the prevalence of tubercular disease, is important:—

"Philanthropists and legislators, in dealing with the unhealthiness of towns, have, until lately, had chiefly to do with epidemic diseases as their main source of excessive mortality. But it is apparent that tubercular diseases are a still more serious source of destruction to the well-being of a great city. It is also most probable that the abatement of their ravages will need a different description of measures from those which have been proved to be serviceable against diseases of the epidemic class. The discovery of the necessary measures is a duty which it peculiarly becomes this association to press upon the Government of the country, and also upon the great, the wealthy, and especially those whose business of life it is to amass wealth through the labor of the working classes, and whose requirements have occasioned the concentration of the people in overgrown towns, with all its concomitant evils."

### Reviews.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, FOR THE YEAR 1863. Albany: 1863.

(Concluded from page 221.)

ARTICLE VII.—*A New Operation for Artificial Hip-Joint in Bony Anchylosis. Illustrated by Two Cases.* By LEWIS A. SAYRE, M.D., Professor Orthopædic Surgery, Bellevue Hospital Medical College, and Surgeon to Bellevue Hospital.—The first case is thus stated: Anchylosis of both hip-joints—tenotomy and brisement force in one, and in the other exsection of semicircular segment of bone above trochanter minor—recovery with artificial joint.—The patient was a native of Lexington, Ky., age 26, and presented the following condition. The left thigh was immovably fixed at nearly a right angle with the pelvis, by long cementation or true anchylosis. The right was very firmly attached to an angle not quite so acute, and by a very careful examination I thought some slight motion could be detected which indicated that the attachments were fibrous in character, or at most were asterphytes only, and external to the joint, and that there was no agglutination between the femoral head and the acetabulum, whereas the opposite side seemed perfectly cemented together. He could not walk, except by whirling himself in semicircles, first on one

leg as a pivot, and then the other—or else by swinging himself on his crutches from the axilla. In order to get both feet upon the ground at the same time, his back was curved inward very much at the sacro-lumbar junction, the left knee flexed at an angle of about 45 degrees with the thigh, and the right side of the pelvis was some inches higher than the left. He could only sit by assuming a most awkward posture, half reclining on his side upon a couch or sofa; and in lying down was curled up either on one side or the other, or if upon his back he had to be supported by pillows under his knees, and under the lumbar vertebrae. In fact, he was the most pitiable object I ever saw, and one that would excite the sympathy of any surgeon.

The following operation was performed on the right thigh: division subcutaneously of the adductor muscles, the rectus, tensor vaginae femoris, and femoral fascia of the right hip, and breaking up the adhesions by some considerable force, obtaining a very good motion to the joint. Extension was made to the limb by a weight and pulley, and the hip enveloped in cloths wet in cold water; no serious trouble followed the operation, and in six weeks he could flex and extend, ab- and adduct his right limb with considerable freedom. On the left a semicircular segment of bone above the trochanter minor was removed for the purpose of establishing a new joint. Drs. L. P. Batchelder, Woodhull, and Osborne of this city, Drs. Hooker of New Haven, Ct., Hichborne, of Mass., and Dr. James S. Green, of Elizabeth, N. J., were present at the operation.

The design of this operation was to go above the trochanter minor, so as to retain the insertion of the psoas magnus and iliacus-internus musculos attached to the lower fragment, for the purpose of flexion, and by cutting out a semicircular piece with its concavity downward, and then rounding off the upper end of the lower section, to nearly imitate the natural joint.

Dr. Sayre states that, so far as he is informed, this is the first section of the femur at this point; but he has overlooked the operation of Dr. Kearney Rogers. Dr. Sayre's case was entirely successful. Four months after the operation the patient could go up and down the steps without any difficulty; could stand on either leg without either crutch or cane; could take a step with either foot twenty-seven inches, and when he supported his body on his crutches, could straddle his legs thirty-six inches apart. He could cross either leg over the other below the knee without assistance, but could not cross them upon the thigh.

The second case was one of ankylosis of left hip, section of elliptical segment of femur above trochanter minor—recovery, with false joint and good motion.—The patient was a lady, aged 24, who had suffered from hip-joint disease six years before, the disease terminating in ankylosis. The following was her condition at the time of the operation: "In the erect posture, the heel of the left foot was ten and a half inches from the floor, and on the right side of the right leg. In attempting to walk, it was brought to the floor, still on the right side of the opposite limb, or cross-legged; and was made to reach the floor by a remarkable curvature forward of the lumbar portion of the spinal column; but walking was attended with great fatigue, and a peculiar dull pain in the lumbar region. Urination produced constant excoriation of the limbs, requiring great care and trouble in drawing a handkerchief or soft rag between the closely compressed thighs, to keep them clean or comfortable. Several efforts were made to insert a catheter, in order that the urine might be led off without irritating her limbs; but it was impossible to insert the finger so as to reach the orifice of the urethra, either from the anterior or posterior position, although every effort was made, and with great perseverance." The same operation was performed as in the former case, and with similar results. This patient died of an intercurrent disease before the cure was entirely complete. An autopsy revealed a false joint at the seat of the operation, having many of the elements of a natural joint.

ARTICLE VIII.—Section 1. *Correspondence and Report to Wm. A. Hammond, Surgeon-General U.S.A., including Experiences in the Peninsular Campaign.* Section 2. *General Report to E. D. Morgan, Governor of the State of New York.* Section 3. *Resection of Joints and Conservative Surgery.* By JOHN SWINBURNE, M.D.—The two first sections of Dr. Swinburne's paper are already familiar to the readers of the MEDICAL TIMES, and we shall pass them over. The section on resections of joints and conservative surgery is an able defence of exsections as opposed to amputation, and a judicious discrimination of the rules that should be observed in the selection of cases and in performing the operation. We most heartily concur in the opinions put forward, and can only hope that they will be widely circulated in the army, where they must be productive of good results. The simple truth seems to be, that in wounds of the upper extremities amputation should rarely be performed. Nothing but life can compensate the loss of the arm. Without the overpowering weight of statistics which Dr. Swinburne brings to his aid we should be prepared to accept his arguments as conclusive.

ARTICLE IX.—*Fractures of the Cranium*, by FREDERICK HYDE, M.D., of Cortlandville, N.Y.—Dr. Hyde reports seventeen cases of fracture of the cranium with the following results:—Whole number of cases seventeen, of which ten recovered, one with impaired intellect. The remainder were fatal. In seven of the cases, from moderate to extensive lesion of membranes and cerebral texture existed. In three cases in which the compression was well marked with depressed bone, in which elevation was not practised, complete recovery followed. In four cases in which it became necessary to elevate depressed bone without trephining or obliterating solid bone, two recovered and two were fatal. In one instance of loss of a large bony fragment, without compression, complete recovery followed. Five cases in which trephining was practised, three recovered, two died. Three cases called fracture at the base of the cranium, were fatal. One case of fracture at the base of the cranium, recovered. In two cases with lesion of membranes and cerebral substance with trephining, both died. Two cases in which lesion of the dura mater and brain tissue were present, without trephining, were fatal. Two cases penetrating wound of the membranes and brain, without trephining, both recovered. One case of wound of membranes and brain, with trephining, recovered. The patients were all males between six and forty-five years old.

After narrating the cases the author discusses the vexed question of the use of the trephine, and comes to the following conclusions:—

"While the utmost precautions are to guide us in resorting to the trephine, from the results following its use in civil, private practice, we cannot so fully adopt the doctrine inculcated by some distinguished military surgeons, which would assign so large a proportion of these injuries to the expectant treatment.

"The proportion of cases in which the trephine is needed, will be small under any circumstances; for very many, which seem at the outset to show conditions needing its use, by cautious, patient manipulative trial, will be successfully met, the depressed portions sufficiently elevated, as illustrated in our group of cases.

"So, then, bearing in mind that we should exercise all possible discrimination in resorting to this operation, we, on the other hand, cannot but insist that a cautious trial for the removal of all loose spicular fragments, and blood, should it require even forceps, elevator, and trephine, would be infinitely preferable to leaving a part or all of them, which are to act as foreign agents of direct irritation upon textures of great delicacy, already under a more or less dangerous amount of lesion."

ARTICLE X.—*Case of Lithotomy*, by A. BAKER, M.D., of Norwich, Chenango county.—This case was one of stricture of the prostatic portion of the urethra; operation—weight of calculus four and a half ounces—termination favorable.

ARTICLE XI.—*Resection of Ankle Joint*, by JOHN C. JOHNSON, M.D., of Kings County.—This is a case of resection of the ankle.

"In this age of conservative surgery, when resections are so much in favor, when operations upon the largest articulations can be found in numbers in almost every periodical, those upon the ankle-joint seem strangely few. The hip, knee, and elbow are the favorite articulations for resection, while at the ankle, even when the disease is confined to the joint itself, or its immediate neighborhood, Syme's or Pirogoff's operations are resorted to, and the healthy foot sacrificed.

"So rare has been this operation at the ankle that Mr. Henry Hancock, senior surgeon to the Charing Cross Hospital, in an article in Braithwaite's Retrospect for January, 1860, states, 'the operation was first performed by Moran, and subsequently by Jäger and others abroad; but I believe that I am justified in stating that with the exception of those which I have done myself, there is not a single instance upon record in which excision of the ankle-joint has been performed in this country for disease.'

"In the English journals, I have not found other cases than those reported by Mr. Hancock, and in our own medical literature there is the same absence of cases. Why the solitary exception should be made of the ankle-joint, and the healthy foot sacrificed, I am at a loss to understand.

"In both Syme's and Pirogoff's operations, in addition to the loss of the foot, there is the danger of sloughing of the flaps, or of bagging of the pus, which danger does not exist in resection of the joint.

"In my own practice, an opportunity offered for an operation of this kind, though in a patient constitutionally unfavorable, and the result has been so satisfactory to the patient and surgeon, that it may not be devoid of interest to the profession. On the 26th of January, 1862, I was called to see Mr. J. C., a merchant about 45 years of age, who had received a severe injury by falling on the joint following a compound dislocation, fracture of the internal malleolus, and extensive necrosis of the tibia with profuse suppuration. The operative procedure was adapted to the condition of the parts. The result was satisfactory. The patient's improvement in general health was marked; the drain of laudable pus from the system did not produce the constitutional disturbance that the previous unhealthy discharge had. The patient progressed most favorably, with no features of unusual character. Slight portions of bone exfoliated at the points where the old abscesses had formed. About the 1st of June, the union was sufficiently firm to allow the patient to move on crutches. He can now walk with only a slight halt, and the limb is far more serviceable than any artificial one could be." The paper is illustrated with a lithograph.

ARTICLE XII.—*Hyperostosis of Lower Extremities*. By T. C. FINNELL, M.D., Surgeon to St. Vincent's Hospital, New York.—This person was 27 years old at the time of his death:—"The weight of the right lower extremity is six pounds, that of the left is five pounds, while the lower extremities of an articulated skeleton weigh only three pounds and a half." He was well formed in other respects.

ARTICLE XIII.—*Post-Pharyngeal Abscess, with Three Cases*. By HENRY S. DOWNS, M.D., New York.—Dr. Downs reports three exceedingly interesting cases of this affection, all occurring in very young children. The following case, copied by Dr. D. from Dr. Buck's notebook, presents the peculiar features of these cases:—"April 2d, 1858, I visited with Dr. Hubbard, an infant son of L. T., nine months old, who was suffering from obstructed respiration, and had but recently recovered from an attack threatening suffocation. Alarmed by the danger of this attack, the mother had sent in great haste for the doctor. The child's lips were livid, his eyes dull and expressive of exhaustion, his respiration labored, but not sonorous, his pulse accelerated, but without febrile heat. While crying, the

voice appeared unchanged, and free from hoarseness. On the right side of the neck, and below the angle of the jaw, a cluster of enlarged lymphatic glands (one of which was of the size of a large flattened nutmeg) was visible by their salient elevations above the surface. Dr. H. had already diagnosed the existence of a post-pharyngeal abscess. Inspection with the end of a spoon to depress the tongue, failed to discover anything, owing to the contraction of the velum and pillars of the palate, together with the accumulation of a viscid secretion in the fauces. With the finger, an elastic salient swelling was felt, lying upon the posterior wall of the pharynx, and situated in the median line. The upper limit of it was opposite and posterior to the base of the tongue. After two or three efforts to puncture the swelling with a sharp-pointed guarded bistoury, conducted along the left forefinger, previously introduced far back into the mouth, and placed in contact with the swelling, I at length succeeded in accomplishing the object. Instantly a gush of matter followed, that flowed from the mouth, and covered his apron. A quantity was also swallowed. The relief that followed was immediate and marked. This child had heretofore been very thriving and healthy.

"For about four weeks previous it had been ailing with its throat, without exposure to scarlet fever, or other obvious cause. There had been no croupy symptoms, and deglutition had not been much disturbed. In nursing, it would often be obliged to stop, and of late, attacks of dyspnoea had been growing more frequent and more alarming. In one of these alarming suffocative attacks, Dr. H. requested my attendance. The attack had passed off, and the child was comparatively easy at my visit. The subsequent progress of the case was favorable, and the recovery rapid and complete."

(To be Continued.)

## Correspondence.

JOSEPH HYRTL,

THE ANATOMIST OF THE VIENNA MEDICAL SCHOOL.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—The amphitheatre of the anatomical department of the great medical school in the Austrian capital, Vienna, was always crowded, for Professor Hyrtl's demonstrations of Topographical Anatomy, although the lecture was at an early hour, for a winter morning, between six and seven. The Lecturer came in, dressed in a very shabby attire, the main features of which were a soiled morning gown, and a stock without a collar, and pushing up his large horn spectacles, began with some humorous remark, exciting a roar all through the class; after which he would go seriously to work, although during the hour and a half many an excellent joke would be made.

There is not that profuse pictorial illustration which adds so much to anatomical demonstrations in America, but there is that which well nigh more than compensates for it: that is, a blackboard, which is kept covered with striking diagrams, drawn by the Lecturer with rapid hand, turning his head half round while at work to see if his audience be satisfied with the delineation.

Nearly all the German teachers whom I have heard cultivate the use of the blackboard to a much greater extent than is common with our instructors, and these pictures, with the artist as his own demonstrator, have an effect only to be imperfectly appreciated by those who have not been taught by them. Hyrtl's animation and wit, as displayed in his lectures, are not without their critics. I heard quite an eminent teacher speak of him as a "play actor." Be that as it may, he holds large classes, whilst Rokitsansky, with a world-wide fame, has scarcely a dozen to hear his monotonous readings from books long since given to the public.

Joseph Hyrtl, one of the professors of anatomy in the Imperial University of Vienna, born in Hungary in 1811, studied medicine in Vienna, and two years after graduation, in 1835, was elected Professor of Anatomy in the famous old university in Prague, where he remained until called to the Chair which he now occupies.

His great achievements have been in his minutely injected preparations, and those illustrating some points in comparative anatomy, especially that of the internal ear, and in his published works, which are widely known and appreciated. These last are as follows:—*Handbook of the Topographical Anatomy of the Human Body. A Text-Book of Human Anatomy. Comparative Anatomical Examinations of the Inner Ear of Man and the Mammalia*; with some other works of less importance.

Professor Hyrtl did very much to form the anatomical museums in Prague and Vienna, besides making a very large private collection, which was destroyed by soldiers, with his house, in getting at the insurgents or revolutionists in 1848. While Dr. Hyrtl was assisting in the hospital in the care of the wounded, this was done. He returned home, to find his private effects, with the result of his scientific labors, entirely destroyed. Referring to this, he said: "On seeing the ruins I went to a neighbor to borrow a shirt to replace mine soiled with blood, and a handkerchief with which to weep;" not quite as philosophical as Sir Isaac Newton, when his dog Diamond had destroyed the papers filled with the calculations of years.

The Professor has, however, a new collection, made since 1848, consisting mostly of the skeletons of fishes. This is very large, filling two large rooms, and coming from all parts of the world. He has also a large collection of the *ossicula auditus* of the mammalia. This is probably the most complete in the world, and for it he obtained a medal at the last London Exhibition. They are arranged on blackboards, and possess the highest interest to the student of comparative anatomy. One of these collections was purchased for a museum in London, the Hunterian I believe. The Professor practised surgery for a little time, but gave it up in disgust to go back to his anatomical studies, after having amputated the leg and thigh successively in a case of malignant disease, and seeing it return in the hip-joint. Hyrtl is a very industrious man, spending his days in dissections in a dirty little room just back of the amphitheatre, with a text-book of anatomy before him. I found him one day, with Gray, thus lying near the infant cadaver which he was at work upon. In person he is tall and well formed, pleasing in speech, and his writings are characterized by originality and humor, combined with lucid expression.

D. B. St. J. R.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—An adjourned Anniversary Meeting of the above Society was held on the second inst. at the College of Physicians and Surgeons. The attendance was very full, even better than at the preceding meeting. Among those present were some of the oldest members of the Society; those who had filled its posts of honor more than twenty years ago. After the announcement of Committees for the ensuing year, and the election of Delegates to the "American Medical Association," the re-elected President delivered a brief but felicitous address to the Society. Dr. Percy exhibited a specimen of the "*Sarracenia Purpurea*" in vigorous growth. It was obtained from the bogs in the mountains above West Point. Dr. P. stated that he should say nothing at present of its medicinal properties, but hoped at some future time to make some observations upon its uses which at present he had under consideration. It was well known to all the members present that this is the plant which has been so highly recommended for the cure of small-pox, and which was first brought before the notice of the medical profession by an Indian woman in Canada.

Dr. Elsberg presented a tongue spatula, devised by himself for the purpose of facilitating the performance of laryngoscopy and the examination of the fauces.

It having been intimated that the President had some business of a different nature to bring before the Society, which could only be done with advantage at his own house, the Society adjourned at about ten o'clock, to re-assemble at the residence of Dr. Underhill, where they were speedily enlightened as to the nature of the business which was to occupy their attention. Realizing the truth so aptly propounded two thousand years ago "*Omne tulit punctum, qui miscuit utile dulci*," the sagacious President had prepared a beautiful entertainment, which illustrated in a striking manner the correctness of this ancient theory. Several short and effective speeches were made by officers and members of the Society, in reply to sundry toasts, and so thoroughly was the "*dulce*" mixed up with the "*utile*" that a degree of enthusiasm and good fellowship was awakened, which a dozen more formal meetings might have failed to call forth. Though not strictly scientific in their character, such occasions are unquestionably very beneficial in their results.

Yours etc.,

G. F.

NEW YORK, November 7, 1868.

## AN ANOMALY IN CRANIAL STRUCTURE.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—Irregularities in osseous structure aside from those produced by the action of morbid causes have hitherto been confined to variations in length and thickness; i. e. length of the styloid process and thickness of the cranial walls. A skull now in my possession, which was obtained from a recent dissection, presents the following anomaly. On both sides of the sella turcica there is complete bony union between the anterior, middle, and posterior clinoid processes. A foramen is thus formed by the junction of the first and second, and an arch over the passage-way of the circular sinus by the union of these two with the third. A careful examination of different skulls may discover a tendency in these processes to unite, but I believe there is no case on record parallel to the above anomaly. Although devoid of that practical importance pertaining to variations of the arterial system, it may yet serve to inculcate caution in surgical operations, showing, as it does, possible variations in parts and places least expected.

W. LOCKWOOD BRADLEY,  
Medical Student.

BELLEVUE HOSPITAL, November 2, 1868.

## Army Medical Intelligence.

### APPLICATIONS FOR ARTIFICIAL LIMBS.

THIS application should be made to any of the Department Medical Directors, who, if satisfied of the correctness of the claim, will order a limb from any of the manufacturers who are authorized to supply such limbs. The selection of the manufacturer is left to the applicant.

Proof must be inclosed that the applicant was an enlisted man at the time of losing the limb, and that the limb was lost in the line of duty. This proof, if he is still in service, will consist of certificates from the commanding officer, surgeon-in-charge, or any commissioned officer personally cognizant of the facts of the case. If discharged from the service, his discharge papers must be submitted for examination, with his own affidavit of the time, place, and manner of losing the limb, and, if possible, the certificate of his former commanding officer, or surgeon-in-charge.

The discharge papers will be returned to him.

Instructions as to the measurements of the limb will be forwarded by the manufacturer to the applicant.

Soldiers are not allowed to purchase an artificial limb and receive the commutation value thereof in money, nor will any money so expended be refunded out of the Government appropriation.

Commissioned officers are not entitled to the benefits of the provision made by Congress for supplying "Artificial Limbs for Soldiers."

The following are the manufacturers who are authorized to supply limbs:—Douglas Bly, New York, Rochester, and Cincinnati; E. D. Hudson, New York; Frank B. Palmer, New York, Philadelphia; B. W. Jewett, Washington, D.C.; Chas. Stafford, Chicago; H. A. Gildea, Philadelphia.

The following are the stations of the various Medical Directors to whom the applications should be made:—New York city, Surgeon C. McDougall, U.S.A.; Philadelphia, Pa., J. Campbell, U.S.A.; Baltimore, Md., Jos. Simpson, U.S.A.; Washington, D. C., R. O. Abbott, U.S.A.; Cincinnati, Ohio, W. S. King, U.S.A.; Chicago, Ill., J. B. Porter, U.S.A.; St. Louis, Mo., M. Mills, U.S.A.; New Orleans, La., R. H. Alexander, U.S.A.; Louisville, Ky., G. G. Shumard, U.S.A.

**GENERAL ORDERS, NO. 351.**  
WAR DEPARTMENT, ADJUTANT-GENERAL'S OFFICE.  
WASHINGTON, D. C., Oct. 29, 1863.

The employment of women nurses in the U. S. General Hospitals will in future be strictly governed by the following rules:—

1. Persons approved by Miss Dix, or her authorized agents, will receive from her, or them, "certificates of approval," which must be countersigned by Medical Directors upon their assignment to duty as nurses within their Departments.

2. Assignments of "women nurses" to duty in General Hospitals will only be made upon application by the surgeons in charge, through Medical Directors, to Miss Dix or her agents, for the number they require, not exceeding one to every thirty beds.

3. No females, except Hospital Matrons, will be employed in General Hospitals, or, after December 31, 1863, borne upon the Muster and Pay Rolls, without such certificate of approval and regular assignment, unless specially appointed by the Surgeon-General.

4. Women nurses, while on duty in General Hospitals, are under the exclusive control of the senior medical officer, who will direct their several duties, and may be discharged by him when considered supernumerary, or for incompetency, insubordination, or violation of his orders. Such discharge, with the reasons therefor, being endorsed upon the certificate, will be at once returned to Miss Dix.

By order of the Secretary of War:

F. D. TOWNSEND,  
Assistant Adjutant-General.

**ORDERS, CHANGES, &c.**

Surgeon Bernard Beust, U.S.V., has been relieved from duty in the Department of the South, and will report in person without delay to the General Commanding the Department of the Monongahela, to relieve Assist-Surgeon J. C. McKee, U.S.A.

Assist-Surgeon McKee, on being relieved, will report in person to the Surgeon-General in this city, for assignment to duty in the Judiciary Square Hospital.

Surgeon A. E. Stocker, U.S.V., will proceed without delay to Key West, Florida, and report to the Commanding Officer of the United States forces at that place.

Assist-Surgeon Albert Hartauff, U.S.A., has been relieved from duty in Washington, D.C., and will repair without delay to Pensacola, Florida, and report in person to the Commanding Officer, United States forces, at that place, for duty.

Surgeon William Hayes, U.S.V., will immediately return to Harper's Ferry, Va., and resume his duties as Medical Director, 1st Division, and report by letter to the Surgeon-General, U.S.A., by what authority he left the Department of Western Virginia.

Leave of absence for sixty days, with permission to visit Washington, D.C., has been granted to Medical Inspector Keeney, U.S.A.

Leave of absence for fifteen days has been granted to Surgeon E. F. Bates, U.S.V.

Surgeon C. A. Robertson, 150th N. Y. Vols., having tendered his resignation, has been honorably discharged the service of the United States, on account of physical disability.

## Medical News.

THE work of DR. BUMSTEAD on Venereal is about to be honored with a translation into Italian.

DR. J. FOSTER JENKINS has been appointed General Secretary of the Sanitary Commission, and will remain in New York.

DR. B. HOWARD, Assist. Surg. U.S. Army, lately on duty in the army of the Potomac, is on sick leave in New York.

DR. H. S. HEWITT, Surg. U.S. Army, has returned from the army of Gen. Grant, and is at present at Bridgeport, Ct.

Two operations for lithotomy were performed at Bellevue Hospital, on Saturday, Nov. 6th: one by Prof. J. R. Wood, and the other by Prof. W. Parker.

MAISONNEUVE is recommending the treatment of hydrocele by the introduction of a probe charged with nitrate of silver, through the canula into the sac, a plan of treatment adopted by Dr. Willard Parker, of this city, several years ago.

FORMULA for the Capsules of Balsam of Copaiba and Oil of Cubebs, as prepared by E. Queru. Each capsule contains 9 grains of pure Para balsam and 1 grain of essence of cubebs, which represents 13 grains of cubebs berry. The envelope or capsule is made according to the formula in the U. S. Dispensary.

DR. WM. H. CHURCH, Surg. Vols., has resigned his position in the army, and returned to the practice of his profession in New York city. During his term of service, Dr. C. was Medical Director of Gen. Burnside's army, both in North Carolina and in the West. He accompanied Gen. Burnside in his expedition to East Tennessee, and was finally compelled to resign on account of ill health.

THE *San Francisco Med. and Surg. Jour.* announces the death of Dr. Gray:—"It is with feelings of deep regret that we perform the painful duty of announcing the death of our late distinguished confrère, Dr. Henry Martyn Gray, who died at his residence in this city, at half-past four o'clock on Thursday morning, 24th inst., aged forty-two years.

"Called from a sphere of usefulness and honor while yet in the prime of life, the end of his earthly existence is justly considered a public calamity by the community in which he lived. Born in the city of New York, Dr. Gray graduated with high honors at the Geneva Medical University. He emigrated to California in 1849, and having established his residence in San Francisco, he soon won for himself a prominent position among his fellow-physicians; while by the genial qualities of his disposition, his high mental endowments, the kindness of his heart, and his numerous acts of benevolence, he surrounded himself with a large circle of warm and devoted friends among all classes of society.

"Dr. Gray occupied a high position in the Masonic fraternity, was President of the San Francisco Pioneer Association in 1861-2, and at the time of his death held the post of surgeon, with the rank of Lieutenant-Colonel, on General Allen's staff."

Dr. Gray was formerly a resident of this city, and will be remembered as an active member of medical societies.

THE *San Francisco Med. and Surg. Jour.* says:—"If we estimate our present population at 100,000, our rate of mortality has been less than 1 in 49; showing a degree of salubrity which may be advantageously compared with that of any large city in the civilized world."

THE Number of Medical Students now pursuing their studies at our metropolitan schools, is rather under the number registered in October last, and considerably under those registered in 1860, when the number reached 1230.

—*Brit. Jour.*

## Original Lectures.

### LECTURES ON THE MORBID CONDITIONS OF THE BLOOD.

DELIVERED AT  
THE BELLEVUE HOSPITAL MEDICAL COLLEGE.  
PRELIMINARY TERM, SESSION OF 1868-4.

By AUSTIN FLINT, M.D.,

PROF. OF THE PRINCIPLES AND PRACTICE OF MEDICINE.

#### LECTURE IV.

*Morbid Conditions relating to Fat.—Do. to Sugar.—Diabetes Mellitus.—Morbid Accumulation of Excrementitious Principles in the Blood.—Uræmia.*

FAT enters into the composition of the corpuscular constituents and the liquor sanguinis, the average amount in the whole mass of blood being estimated to be a little over 2 in 1000 parts. The greater part is saponified, that is, in combination with alkalies. Of the fats which are non-saponifiable, with our existing knowledge, the most important is cholesterin. An excess of fat leads to the presence of oil globules, or free fat, in greater or less abundance. These have been repeatedly observed in diseases. In health the blood-serum is turbid or milky for several hours after a full meal. This has been observed when venesection has been practised under these circumstances. It is due to the products of lacteal absorption, which are at this time poured into the blood. This is the explanation of some of the cases of white or milky blood which have been reported by medical practitioners.

The pathological relations of an excess of oil in the blood are very imperfectly known. Clinical observations have shown that it is more or less abundant in acute affections generally. Under these circumstances it must be chiefly derived from the adipose tissue within the body; hence the emaciation which accompanies acute affections. It accumulates in the blood of drunkards, leading to that amount of deposit in the adipose structure which constitutes obesity. Lehmann states that this result is not due directly to the introduction of alcohol, but that it occurs only when the liver becomes affected.

Nothing is to be said respecting our positive knowledge of a morbid deficiency of oil in the blood. Yet, probably, such a morbid condition exists, and has more or less importance in its relations to diseases. This is certainly a fair inference from the benefit derived from cod-liver oil and other fatty substances in tuberculosis, scrofula, and other affections.

Of the non-saponifiable fats, cholesterin alone, with our present knowledge, has important pathological relations. Experiments and clinical observation have shown that this is an excrementitious substance, and a notice of its abnormal accumulation in the blood will therefore come under another division.

Therapeutically, it would seem to be an object to increase the amount of oil in the blood in certain diseases, especially in tuberculosis, and, on the other hand, to diminish the amount in cases of obesity. The latter is also an object in cases of fatty degeneration of the heart and arteries, if it be true, as is highly probable, that this structural change is either dependent upon, or favored by, an excess of oil in the blood. The diminution of oil in the blood is effected by restricting the diet, in a great measure, to nitrogenized substances, avoiding butter, fat meats, sugar, and limiting the amount of farinaceous food. Obesity is not uncommon in middle age, developed to an extent to constitute a morbid condition; and it occurs sometimes in early life, evidently from a constitutional tendency, and may reach an excessive degree, as seen in persons exhibited as objects of curiosity on account of the enormous size and weight to which they attain. Whenever it exceeds the

limits of health, it may appropriately claim treatment; and it may often be notably lessened by excluding from the diet fatty articles, and limiting the ingestion of substances readily converted into fat, viz. sugar and starch.

To effect or promote an increase of oil in the blood, oleaginous remedies, and a diet the opposite of that just indicated, are to be employed.

As regards the substances embraced under the head of extractive matters, a few words will suffice. This division includes a variety of undetermined constituents of the blood—undetermined with respect to their nature, source, metamorphoses, relations to different organs, and uses. Of course, they have not, in the present state of our knowledge, any well determined pathological relations. It is not improbable that they play an important part in morbid processes, but nothing has as yet been ascertained.

Sugar is an organic substance which exists in the blood in health. It is a constituent of the blood in certain portions only of the vascular system, viz. within the portal vein, more abundantly within the hepatic vein, the vena cava ascendens, the right cavities of the heart, and the pulmonary artery. It is sometimes, but not uniformly, found in the blood generally; but, existing in the parts just named, when found, the quantity is very small, save as a morbid condition. With respect to the existence of productions of sugar within the organism, the late discovery by Bernard is of great interest and importance. This distinguished physiologist has shown that its production is one of the functions of the liver. A certain quantity is received from the sugar and starch contained in the ingesta. But the hepatic vein contains much more than the portal; and it is contained in the former when the ingesta is devoid of both saccharine and amylaceous substances, and when no sugar is contained in the portal blood. It is destroyed during the passage of the blood through the lungs. How is it destroyed? This is a physiological question, but it has important pathological bearings. The explanation which seems most probable is, that it is converted into lactic acid, the latter combining with soda, lime, and potash, forming lactates which are again converted into carbonates, and then again decomposed by the pneumatic acid.\*

In health, sugar is not eliminated from the body, but as a symptom of disease, it may exist in great abundance in the urine, in other secretions, and in exhalations. And, under these circumstances, the blood everywhere throughout the body contains it. This constitutes the morbid condition known as *diabetes mellitus*.

Sugar exists in the urine, in other secretions, and in transuded liquids, in cases of diabetes, in consequence of its existence in the whole mass of blood. Diabetes is not a disease of the kidneys, as it was formerly regarded. These organs merely excrete sugar contained in the blood, brought to them by the renal arteries. The sugar in the renal blood increases the functional activity of the kidneys, acting like a diuretic, and, hence, the quantity of urine is greatly increased. An increased quantity of urine, containing sugar in abundance, thus becomes the diagnostic criterion of diabetes.

Why is it that the blood in the general circulation becomes saccharine in this disease? Either the liver produces too much sugar, or the processes by which it should be made to disappear from the blood in the lungs are imperfect. Our present knowledge does not, perhaps, enable us to decide between these two explanations, and both may concur in some cases; the first, however, is the more rational, if it be true, as estimated by Bernard, that in some cases of diabetes a much larger amount of sugar is excreted by the kidneys than is formed by the liver in health. Moreover, certain facts render it not improbable that a prior morbid condition of the nervous system may be involved. Bernard ascertained that by irritating the medulla

\* Robin and Verdel, *Chimie Anatomique*.



oblongata at the point of connexion of the pneumogastric nerve, sugar appears in the urine. A transient attack of diabetes may in this way be produced at will in an inferior animal. Hence, it may be conjectured that diabetes, occurring spontaneously, is an affection of the nervous centre, an abnormal influence being transmitted to the liver through the pneumogastric nerve.

Were the seat and nature of diabetes established, our knowledge might, perhaps, lead to rational indications for treatment. As it is, the therapeutics of the disease are quite unsettled. It is a very grave disease, persisting in the great majority of cases, and proving fatal sooner or later. A temporary and partial relief is, in general, only attainable. And this is effected by different means, so that the success of a particular mode of treatment does not reflect much light on the pathology of the disease. Inasmuch as a considerable portion of the sugar is derived from the ingesta, one point in the management is to cut off or diminish the supply of sugar in the food. In this way the quantity of urine is generally lessened, and the amount of sugar which it contains. But this measure of treatment is directed, not against the primary or essential morbid condition, but only against an effect or symptom; for the presence of the sugar in the blood is dependent on some prior morbid condition. The saccharine blood is the ultimate appreciable morbid condition, in the existing state of our knowledge, but it is evidently a result of some deeper change which has not yet been ascertained. Alkaline remedies, continued, with occasional intermissions, for a long time, as recommended by Trousseau, I have known to prove remarkably useful, but in some cases to be attended with no benefit. This treatment is based on the hypothesis that the sugar received into and formed within the system is not destroyed, owing to the want of alkalies in the blood. Rennet has been proposed, with a view to promote lactic fermentation, and its usefulness is said to be shown by the results of clinical experience. Remedies addressed to the nervous system are found to diminish the quantity of sugar excreted. Opium is generally beneficial. Strychnia is sometimes notably so.

These different measures are here mentioned in illustration of the fact that clinical experience appears to show the utility of methods of treatment based on different views of the pathology and seat of the disease.

Sugar may appear transiently in the urine, in small quantity in various diseases, and under these circumstances has no more pathological importance than the occasional appearance of a trace of albumen. The statement made a few years ago by Reynoso that the urine is habitually saccharine in affections which compromise the respiratory functions has not been confirmed by the observations of others. A trace of sugar may be found in the urine of healthy persons after certain kinds of food, and when certain remedies have been given, especially the ethers. It is also found sometimes in considerable abundance for a short period when the system is disturbed by strong mental emotions.

Certain morbid conditions of the blood consist in an undue accumulation of excrementitious substances. And of these the first in importance are the organic constituents of the urine, viz. urea and uric acid. These, as well as all excretory products, are preformed in the blood, not produced within the glands, as was formerly supposed. They exist, therefore, in the blood in health, and it is their accumulation in abnormal quantity which constitutes the morbid condition. The excrementitious substances just named are distinguished as nitrogenized, and consist of effete matter derived from the nitrogenized tissues of the body. Their existence in the blood in health has been recently demonstrated. Their undue accumulation in certain affections of the kidneys has been proved by direct observation. Deficient excretion of urea occurs in acute inflammation of the kidneys, or nephritis, in the affection commonly known as acute albuminuria, and as a result of

the chronic lesions embraced under the name of Bright's disease. Under these circumstances the urea accumulates in the blood, and gives rise to the condition called *uræmia*. There is no evidence that this condition is ever due to an excessive production of urea in the blood. In all cases it is a consequence of the excretory function of the kidneys being either arrested or inadequate to a proper elimination of this excrementitious substance.

Uræmia is a form of blood-poisoning, or *toxæmia*, entering largely into the causation of morbid phenomena, and, consequently, of great importance in its practical relations. Our present knowledge of it has been recently acquired, and although by no means so complete as could be desired, it constitutes one of the most prominent of the characteristics of medicine at the present time, as compared with the past. The effects of this morbid condition are manifested especially in phenomena pertaining to the nervous system, coma, and convulsions of an epileptiform character, constituting the graver of these. These phenomena are apt to precede a fatal termination. Coma and convulsion occurring either with or subsequent to scarlatina with renal complication, in nephritis, in Bright's disease, and puerperal eclampsia, are due to uræmic poisoning of the blood. The urea accumulating beyond certain limits acts upon the nervous system in a manner analogous to certain poisons introduced from without the body, for example, strychnia. Its mode of action is not explicable with our present knowledge. The question has arisen whether it acts directly as urea, that is, without having undergone in the blood any change. According to Frerichs it is converted in the blood into carbonate of ammonia, a substance with which it is chemically nearly identical, and it becomes poisonous only after this conversion has taken place. Frerichs claims to have established the correctness of his opinion by experiments on inferior animals and clinical observations. The admirable experiments of Hammond, however, appear to disprove this hypothesis.\*

Clinical observation shows that various inflammations are apt to be developed as results of uræmia, more especially serous inflammations, viz. pleuritis, pericarditis, and peritonitis. It appears to stand sometimes in a causative relation to pneumonia. Amaurosis is an occasional result. It is one of the pathological conditions under which neuralgia occurs. Other results denote efforts for the vicarious elimination of urea. Persistent vomiting and purging belong to the clinical history of uræmia. And these symptomatic events are due to efforts of elimination of the urea through the gastro-intestinal mucous membrane. The experiments of removing the kidneys in inferior animals by Prevost and Dumas, Bernard and Barreswill, Hammond and others, show that under these circumstances urea accumulates in the blood; after a time vomiting and purging occur, and either urea or the carbonate of ammonia is found in the contents of the alimentary canal; finally, this vicarious elimination being insufficient to prevent an accumulation from reaching the point necessary for the production of poisonous effects, convulsions and coma ensue, which are followed by death. The same consequences take place when the excretion of urea is prevented by certain diseases of the kidneys.

In order to ascertain the existence of uræmia an analysis of the blood may be made; but this test is hardly available for ordinary clinical purposes. The existence of this condition may be inferred whenever in connexion with its characteristic pathological effects the secretion of urine is suppressed, or the quantity greatly diminished. Urea, however, may be wanting in the urine, although the quantity of the latter be not much if at all diminished. The urine is of a low specific gravity when the urea is deficient, and as the deficiency of urea is generally associated with albuminuria, the presence of albumen in the urine, with diminished density, renders it probable that uræmia exists. For positive proof the urine may be analysed with reference to the quantity of urea which it

contains. If not adequately excreted by the kidneys it must accumulate in the blood, and if not diminished vicariously, through some other channel the pathological effects of uræmia must sooner or later ensue.

The therapeutical indications pertaining to uræmia are, *first*, to endeavor to promote the excretion of urea by the appropriate emunctories, viz. the kidneys, and, *second*, to favor its vicarious elimination. The first indication relates to the use of diuretic remedies, which, unhappily, are often inoperative when the kidneys are much diseased. The second indication calls for hydragogue cathartics and sudorific measures, urea being eliminated through the intestinal and cutaneous surfaces. The spontaneous efforts of elimination through the alimentary canal are not to be too much interfered with. There are no means of neutralizing the urea in the blood, or protecting the system against its poisonous effects.

## Original Communications.

### METHOD OF

#### APPLYING THE SOLID NITRATE OF SILVER TO DEEP CAVITIES.

By FREDERIC D. LENTE, M.D.,  
SURGEON TO "WEST POINT FOUNDRY."

SIR:—Allow me to call attention to some further applications of the "uterine porte-caustique" described and figured in a recent number of this journal; namely, the introduction of the solid nitrate of silver into other deep cavities besides the interior of the uterus; thus rendering unnecessary other more expensive and, I think, less efficacious contrivances. For instance, Messrs. Tiemann & Co. have made, at my suggestion, a long probe of pure silver, considerably smaller than the uterine probe, and furnished with a handle, with which, and aided by the laryngoscope, the solid caustic may be readily conveyed to any point rendered visible by that ingenious apparatus. The series of rather expensive *porte-caustiques*, usually accompanying the laryngoscope, may then usually be dispensed with, as the solid nitrate, applied directly to a diseased part, is generally more beneficial than a solution swabbed indiscriminately, as it must be, over the diseased and the adjacent healthy structures. Especially would this be the case, when the application is to be made to the interior of the larynx.

With the same probe, the caustic may be conveyed to the very bottom of extensive sinuses, when advisable to make such an application, more efficacious in all such cases than an injection of solutions, however strong, because the latter never come into good contact with the walls on account of being somewhat exhausted in acting upon the secretions which always protect these walls; whereas, these secretions are cleared away or rendered nugatory by the mechanical effect of the solid application.

In a case now under my charge, I have made still another application of the instrument with very gratifying results; namely, to the bottom of the *meatus auditorius externus*, by means of the *speculum auris* of Toynbee. In this case, there was a perforation of the *membrana tympani*, and a *polypus*, too small to be removed by means of the aural écraseur, but large enough, in connexion with the accompanying disease of the *cavitas tympani*, to give rise to a fetid discharge of a very annoying character, threatening indeed to implicate the membranes of the brain, and which had resisted all the fluid applications that had been

employed, at intervals, for several years by other surgeons; in one instance, by the surgeon of the Archduke of Austria. The polypus was destroyed entirely by first drying the bottom of the meatus, then applying the solid nitrate through the *speculum* several times on the end of an Anel probe, bent in the middle like other aural instruments, to avoid obstructing the light. Messrs. Tiemann & Co. have contrived a more convenient instrument for this purpose, stouter than Anel's probe and furnished with a handle.

With a similar instrument, but straight, the solid nitrate may be applied to the *lachrymal sac*, and even to the *ductus ad nasum* in certain cases, instead of using the solution with a syringe as is now done. Having slit up the *canaliculus* as usual, get the direction of the canal with one of Bowman's probes, then pass a suitable probe, coated carefully with the nitrate, rapidly down into the sac, and sweep it around its walls; if it is desired to enter the *ductus ad nasum*, do this first, and cauterize the sac after withdrawing from the duct.

In all cases, to insure the success of the application, the directions for coating the "uterine porte-caustique" should be carefully attended to. That is, to have the end of the instrument present a *fresh* surface, as by rubbing it bright with buckskin sprinkled with emery, or some similar substance; then, having melted the nitrate, to heat the end of the probe in a *spirit* lamp, and no other; then dip it repeatedly in the nitrate so that the successive layers shall be thin, and adhere well together. The caustic will then never fall from the end of the probe, unless struck with some hard instrument, and will remain intact for days in a dry place. Messrs. Tiemann & Co. have made a small platinum cup for melting the nitrate, which will be found very convenient.

COLD SPRING, Oct. 1862.

## BRONCHOTOMY,

WITH A STATEMENT OF FORTY-THREE CASES.

By ALFRED NORTH, M.D.,

WATERBURY, CONN., LATE HOUSE-SURGEON TO N. Y. HOSPITAL.

THE term bronchotomy is derived from a Greek compound, literally signifying a division of the windpipe; and properly includes the operations of laryngotomy and tracheotomy. The former consists in opening into the larynx, through the crico-thyroid membrane, which is comparatively superficial, and not crossed by any vessels of much importance if wounded, and is the easier and safer of the two operations. In the latter the opening is made below the cricoid cartilage, and consequently is deeper seated, involving larger and more troublesome vessels.

In performing tracheotomy, it is desirable that the patient should be placed on a low bed, and in a situation favorable to the light, with the bedstead raised so as to form an inclined plane. His head is to be thrown back, which brings the windpipe prominently forward, and renders the integuments and muscles in front of it conveniently tense. The incision should be first made through the skin exactly along the central line of the neck. The wound should then be examined for vessels exposed to the knife, and after pushing these aside, the sterno-hyoid muscles may be separated, the fascia cut through, and the trachea divided from below upwards. Of the division of the isthmus of the thyroid body, difference of opinion exists among surgeons. Malgaigne, Lawrence, and Buck are in favor of the division, if it cannot be easily avoided. In performing the operation of laryngotomy the same general rules are to be observed as in tracheotomy.

An investigation of the importance of bronchotomy in certain laryngeal affections was first suggested to me by an interesting case that lately occurred at the New York Hospital. I have collected from various sources forty-three cases of bronchotomy, which I shall present in a tabular form, and afterwards draw such deductions from the same as may bear upon the different heads into which I shall divide the subject.

Table of Forty-three Cases of Bronchotomy.

Case.	Sex. Age.	Condition preceding Operation.	Previous treatment.	Nature of obstruction.	Operation.	Immediate Result.	Ultimate Result.	Autopsy. Remarks.	Reference. Surgeon.
1	M 85	Frequent paroxysms of dyspnoea; dysphagia; much emaciation and debility.	Mild mercurials; aia. Cinnabar fumigations, iodide of potassium.	Syphilitic disease of larynx.	Laryngotomy.	Immediate and great relief.	Recovered, but cannot now dispense with tube.	The operation was resorted to as a curative measure.	Hosp. Records, 1860. Dr. Markoe.
2	M 83	Asphyxia; appeared to be dying.		Tetanus.	Laryngotomy.	Entire relief.	Death followed 10 hours after operation from exhaustion.	No autopsy could be obtained.	Hosp. Records, 1858.
3	M 24	The operation was performed when the patient was apparently in articulo mortis.	Scarification of glottis and epiglottis.	Edema glottidis.	Tracheotomy.	Quickly relieved.	Recovered.	Tube removed on third day.	Hosp. Records, 1848. Dr. Buck.
4	M 28	Erysipelas of back and neck; epiglottis thickened and swollen, from interstitial deposit of lymph; face livid; paroxysms of dyspnoea.	Scarification unsuccessfully resorted to.	Laryngitis.	Tracheotomy.	Great relief.	Death occurred the following day.	The fauces and larynx were of a bright red color, and coated with a layer of yellow lymph.	Hosp. Records, 1848. Dr. Buck.
5	F 83	Pain referred to supposed position of foreign body; dysphagia; huskiness of voice.	A probang was passed oesophagus. The trachea explored with the finger.	Foreign body entered the larynx 2 weeks previous to operation.	Laryngotomy.		She left hospital the morning after operation. Has since been liable to frequent attacks of laryngitis and bronchitis.	The operation attended with considerable hæmorrhage, consequent upon congestion caused by chloroform. No foreign body found.	Hosp. Records, 1848. Dr. Rodgers.
6	M 22	Uvula and epiglottis oedematous, from inhalation of steam. Paroxysms of dyspnoea, with orthopnoea.	Scarification of epiglottis gave temporary relief.	Ustiones. Edema glottidis.	Laryngotomy.	Immediate relief of urgent symptoms.	Death followed, 30 hours after operation.	Autopsy showed extensive oedema of glottis, epiglottis, pharynx, and soft palate, with considerable detachment of mucous membrane of mouth.	Hosp. Records, 1858. Dr. Parker.
7	M 88	Paroxysms of severe dyspnoea; breathing accompanied—with a hoarse laryngeal sound.	Wound dressed, and bleeding controlled.	Wound of throat.	Tracheotomy second day after admission.	Great relief.	Recovered. Tube removed on 29th day.		Hosp. Records, 1847.
8	M 19	Enlargement of cervical glands. Much dyspnoea; eyes fixed and glassy.	Scarification of tonsilla.	Tonsillitis.	Tracheotomy.		Died soon after operation from exhaustion.	The autopsy revealed a large abscess, which had burrowed its way into the deeper portion of the neck.	Hosp. Record, 1847. Dr. Cheesman.
9	M 27	Dysphagia. Dyspnoea severe and seems to be increasing. Aphonia.		Syphilitic ulceration of the throat.	Tracheotomy.	Instantaneous relief to dyspnoea, deglutition much easier.	Recovered, but was wearing the tube when he dropped from hospital.	Patient returned four months after, wearing the tube. He had earned full wages as cook on board of vessel.	Hosp. Records, 1854. Dr. Buck.
10	M 89	Suffocation threatened from blood entering the larynx.	An elastic tube passed into the larynx gave partial relief.	Self-inflicted wounds of larynx, chest and abdomen.	Laryngotomy.	Entire relief from dyspnoea.	Died from exhaustion on fourth day after the operation.	Autopsy showed extensive disease of lungs which were probably wounded, also wounds of peritoneum.	Hosp. Records, 1858. Dr. Ray.
11	M 83	Dyspnoea; aphonia and dysphagia. Cough, with profuse expectoration; was fast sinking at time of operation.	Tincture hyosclamus; brandy and beef-tea.	Symptoms indicate laryngeal obstruction.	Tracheotomy.	Respiration, and deglutition much easier.	Died from exhaustion on tenth day, seventh from the operation.	Autopsy revealed a true aneurism pressing on trachea at its bifurcation. Recent tubercular disorganization of the lungs.	Hosp. Records, 1857. Dr. Markoe.
12	M 26	Ulceration of inner canthus of left eye and soft palate; redness of fauces and pain in right side of chest. Dyspnoea urgent.	Mercurials; cinnabar fumigations; and iodide of potassium.	Syphilitic disease of larynx.	Tracheotomy.	Great relief.	Recovered.	Tube removed two months after operation.	Hosp. Records, 1857. Dr. Noyes.
13	M 19	Dyspnoea. Inspiration more difficult than expiration, the latter being undulating. Epiglottis felt thickened and quite firm. Rapid failure of the vital powers.	Scarification ineffectually resorted to.	Supposed to be edema glottidis consequent upon typhoid fever.	Tracheotomy.	Died during the operation.	Died.	Autopsy revealed pseudo-membranous laryngitis, the deposit reaching from the epiglottis into the trachea. Congestion of lungs and air-passages generally.	Hosp. Records, 1860. Dr. Weir.

Table of Forty-three Cases of Bronchotomy, Continued.

Case.	Sex. Age.	Condition preceding Operation.	Previous Treatment.	Nature of Obstruction.	Operation.	Immediate Result.	Ultimate Result.	Autopsy. Remarks.	Reference. Surgeon.
14	M 38	Four months after original wound necessity existed for a permanent opening, which was secured by two separate operations. Difficulty of breathing recurred from contraction of opening.		Wound of throat. Self-inflicted.	Tracheotomy.	Relieved.	Patient's condition improved by second operation.	The second operation was performed eight months after the original wound. He was wearing the canula when discharged.	Hosp. Records, 1845.
15	M 28	The operation was performed when patient was apparently in articulo mortis.	Scarification.	Edema glottidis.	Tracheotomy.	Resuscitation. In half an hour after operation patient breathed with perfect ease.	Recovered rapidly.	Operation performed under very disadvantageous circumstances. Respiration had ceased. Blood from profuse bleeding entered trachea, and was removed by suction with mouth. Tube closed on fourth day.	Dr. Buck's practice.
16	M 48	Pain in the right chest; severe dyspnoea, referred to spasms of the larynx.	Counter-irritation to the chest; opium and brandy.	Aneurism of the aorta.	Tracheotomy.	Partial but marked relief.	Death followed from exhaustion twenty minutes after operation.	Aneurism was on descending portion of the aorta, and pressed upon trachea, diminishing its calibre about one-third.	Hosp. Records, 1860. Dr. Weir.
17	M 25	Very delirious; tongue and soft palate covered with a thick, dark coating. Urgent dyspnoea supervened.	Ordinary treatment for erysipelas of the face.	Erysipelas.	Laryngotomy.	Relieved and went to sleep.	Died on third day — 18 hours after operation.	No autopsy could be obtained.	Hosp. Records, 1846. Dr. Rodgers.
18	M 36	Paroxysmal dyspnoea; dysphagia. Countenance presents anxious and haggard expression.	Ordinary treatment for laryngitis.		Tracheotomy.	Slight relief.	Died on second day after the operation.	Autopsy revealed an aneurism of the arch of aorta pressing on trachea — no physical signs of this could be detected during life.	Dr. Buck's practice, 1856.
19	F 45	"Extreme" dyspnoea with dysphagia. Countenance anxious and haggard.	Calomel; emetics; leeches and blisters.	Laryngitis. Tracheitis.	Tracheotomy.	Great relief.	Recovered.	Tube removed five weeks after operation. Voice natural.	Dr. Buck's practice, 1856.
20	M 35	Complete aphonia for a long time; dyspnoea; ulceration of the whole pharynx; is much debilitated; deglutition is impossible.		Syphilitic disease of larynx.	Tracheotomy.	Dyspnoea relieved.	Was nourished per rectum for 19 days, when he died from exhaustion.	Autopsy revealed entire obstruction of vocal cords and epiglottis. There was also an opening from oesophagus into the larynx.	Blackwell's Island Hosp. Records, 1855. Dr. Loomis.
21	M 34	Tenderness over the larynx, complete aphonia; pericostitis. Paroxysms of dyspnoea threatening instant death.	Mercurials.	Syphilitic disease of larynx.	Laryngotomy.	Speedy and complete relief.	Recovered.	Patient was wearing the tube a year after operation. It was thought tube might have been removed, but patient unwilling.	Dr. Loomis's practice, 1856.
22	M 30	The operation was performed under the most urgent circumstances of dyspnoea.		Syphilitic disease of larynx.	Tracheotomy.		Died from bronchitis on the third day.	Autopsy showed the larynx free from ulceration.	Med. Times and Gazette, 1859.
23	F 28	Dyspnoea.		Syphilitic ulceration of larynx.	Tracheotomy.	Great relief.	Recovered, but cannot dispense with tube.	Patient for past nine months has been able to breathe a very little through the glottis, which for six years before had been impossible.	Lancet, p. 57, July, 1868. Jno. Hilton.
24	M 17	Countenance livid. Became entirely unconscious.	Mild mercurials and emetics.	Laryngitis.	Laryngotomy.	Great relief.	Death followed during a fit of coughing ten hours after operation.	Autopsy showed upper part of bronchi lined with semi-organized membrane and viscid mucus.	Dr. Buel's practice, 1850.
25	M 5	Dyspnoea urgent and increasing. Countenance expressive of great distress.	Emetics and inversion.	Foreign body impacted in glottis twelve hours before operation.	Tracheotomy.	Very great but not entire relief.	Recovery rapid and complete.	Foreign body dislodged from rima glottidis passed down the trachea, and was expelled the seventh day after the operation.	Dr. Buel's practice, Flushing Insane Asylum, 1862.
26	F 25	Very cachectic; respiration had ceased; the heart had stopped pulsating.	Scarification; mercurials and emetics.	Syphilitic disease of larynx.	Laryngotomy.	Great relief.	Recovered. Bronchitis followed the operation.	Tube removed twelve days after the operation, when all signs of throat affection had disappeared.	Bell. Hosp. Am. Journal of Med. Science, 1867.

Table of Forty-three Cases of Bronchotomy, Continued.

Case.	Sex. Age.	Condition preceding Operation.	Previous Treatment.	Nature of Obstruction.	Operation.	Immediate Result.	Ultimate Result.	Autopsy. (Remarks.)	Reference. Surgeon.
27	M 19	Urgent dyspnoea with stridulous voice.	Chlorate of potash with blisters over the larynx.	Laryngitis following bronchitis.	Tracheotomy.	Some relief.	Death took place sixteen hours after the operation.	No autopsy could be obtained. The laryngitis complicated typhoid fever.	Dr. Swift's practice, 1858.
28	M 38	Symptoms of laryngitis. Dyspnoea threatening suffocation.	Leeches to throat, spirit. mind'r, tart. ant. et pot., and submur. hyd. gave temporary relief.	Bronchitis and pneumonia.	Tracheotomy.	Instantaneous and great relief.	✓ Much relieved.	Nine months after operation was discharged from hospital, relieved.	N. Y. Hosp. Records, 1846. Dr. Hoffman.
29	M 35	Was subject to attacks of dyspnoea. The operation was performed as a precautionary measure.		Syphilitic disease of the larynx.	Laryngotomy.	Relief.	Recovered.		Med. Times and Gazette, 1859.
30	F 30	The operation was performed under the most urgent circumstances of dyspnoea.		Syphilitic ulceration of larynx.	Laryngotomy.	Great relief.	Health much improved. Breathing continues easy, but unable to dispense with tube.	Is able to bear the tube closed for half an hour at a time; will probably soon dispense with tube.	Bell. Hosp., Dr. Loomis.
31	M 3	Patient was cold, pulseless, and nearly suffocated.		Foreign body. Small round shoe button with thread attached.	Tracheotomy.	No foreign body could be found, though repeated examinations were made.	Recovered.	Thread came away in a few weeks. Three months after operation he was using the tube.	Med. Times and Gazette, 1859.
32	F 19	Eight months pregnant. Dyspnoea rapidly increasing.	Leeches were applied over the larynx. Opium to prevent premature labor.	Membranous croup complicating labor.	Laryngotomy.	Instantaneous relief to dyspnoea. Expulsive force returned.	Died from exhaustion 12 hours after operation.	Labor arrested when head of child entered inferior strait. Delivery followed three hours after operation.	Dr. Draper's practice, 1856.
33	F 36	Dyspnoea.		Syphilitic disease of larynx.	Tracheotomy.	Great relief.	Death from bronchitis on tenth day.	Tube was retained in larynx until death.	Med. Times and Gaz., 1859.
34	F 27	Nearly asphyxiated.	Topical application of nitrate of silver; vapor inhalations and hot air - baths gave but temporary relief.	Syphilitic ulceration of the larynx.	Laryngotomy.	Immediate and great relief.	Health much improved, continues to use the canula.	Patient continues to wear the tube.	Bell. Hosp., Dr. Loomis.
35	M 34	Patient for several years has occasionally complained of distress in upper part of chest behind sternum; had cough with hoarseness for five weeks. Countenance pale and anxious; pulse frequent and feeble; hands cold; respiration labored, and attended with a hoarse laryngeal sound, suffocation seems impending.			Tracheotomy.		Died.	Autopsy revealed a false aneurism of arch of aorta encroaching on trachea; its internal wall made up in part of several rings of trachea. The heart, lungs, and trachea healthy. The pressure of aneurism had caused ulceration of the antero-lateral surface of oesophagus.	Dr. Buck's practice, 1854.
43	M 30	Partial aphonia. Severe paroxysms of dyspnoea.	Probang had been passed down his throat.	Syphilitic disease of larynx.	Tracheotomy.	Great relief.	Has bronchitis, but to-day (Feb. 11) doing well, and can breathe with tube closed.	This Case (43) has been added since this table was made out.	Hosp. Records, 1861. Dr. Buck.

\* Cases Nos. 36 to 42 are embodied in the paper, and referred to in "List of Cases."

(To be Continued.)

## THE ESCAPE OF BALLS BY THE RECTUM.—

## GUNSHOT WOUND OF THE ABDOMEN, ETC.

By WM. H. RULISON, M.D.,

SURGEON-IN-CHIEF 2d CAVALRY BRIGADE SUPPLY DIVISION.

I HAVE noticed in the TIMES several cases reported of the escape of balls by the rectum.

A very remarkable case of the kind came under my observation at the Cavalry Corps Hospital at Gettysburg. The history of the case was given by a surgeon in the Confederate Army, and verified by the patient himself. The subject was a Confederate soldier, who was wounded at the battle of Gettysburg by a minié ball, which entered

just below the ensiform cartilage, and escaped from the rectum on the second day after receiving the wound. The surgeon carried the ball in his pocket; it was considerably battered, showing that it had struck something before wounding the man.

This man did well, and when I left Gettysburg on the 25th of August, he had so far recovered as to be able to be about with every prospect of a perfect cure. Several cases of wounds of the bowels by bullets of very great interest were admitted into the Cavalry Hospital at Gettysburg, one of which by your permission I will notice here.

Naham Gilbert, a sergeant in Co. I, 1st Michigan Cavalry, was wounded at the battle of Gettysburg by a carbine ball, which entered about two inches to the right and a little below the umbilicus, the ball lodging. There was partial

paralysis of the lower extremities, and a discharge of *feces* for several days from the wound, which finally ceased, the wound closed, he gradually regained the use of his limbs, and when sent to general hospital on the 20th of August, there was scarcely a doubt of his recovery.

Water dressing to the wound, sparing use of stimulants, nourishing diet, and opium to prevent motion of the bowels, which were moved by enema of warm water on the thirteenth day, constituted the treatment in this case.

IN THE FIELD  
NEAR BEALTON STATION, VA.  
Nov. 7th, 1868.

## Reports of Societies.

### NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, Oct. 23, 1868.

DR. JAS. ANDERSON, PRESIDENT, IN THE CHAIR.

VULVO-VAGINITIS, OR THE LEUCORRHOEA OF INFANTS; WITH SPECIAL REFERENCE TO ITS MEDICO-LEGAL ASPECTS.

DR. MARK BLUMENTHAL read a paper on vulvo-vaginitis, or the leucorrhoea of infants and children, with special reference to its medico-legal aspects. The subject is one of no little interest, inasmuch as the disease is by no means of very rare occurrence, and besides so often misunderstood, both by physicians and the public. The subject was divided into the following parts, and treated under these heads. 1. Its history and nature. 2. Etiology. 3. Diagnosis—simple and differential. 4. Prognosis. 5. Medico-legal importance. 6. Treatment. We shall only attempt here to give a short abstract of the paper, and will therefore not be expected to enter into any lengthened exposition of the facts and opinions therein contained. First, then, as to its history:—Under various and numerous names the disease has long been known, and from the days of Morgagni, who called it the *fluor albus*, through succeeding periods of the time of Hunter and Swediaur, down to Raniel, Schönfeld, Bertin, Rayen, Capuron, Siebold, Boivin and Duges, Rilliet and Barthez, Barriér, Bierbaum, Forster, Wild, Behrend, Von Düben, Ricord, and Churchill, etc., it has been called leucorrhoea, blennorrhoea vaginalis, vulvitis, vaginal catarrh, vaginitis, and finally vulvo-vaginitis. This last appellation was given to the disease by Dr. F. J. Behrend, in an article written on the subject in his *Journal für Kinderkrankheiten*, vol. X., and has been almost universally adopted; and deservedly so, for it embodies the true nature of the malady, and expresses it in a short and concise term, while the old name of leucorrhoea was only expressive of a symptom, and for that reason alone objectionable.

Vulvo-vaginitis is, as the name implies, an inflammation of the mucous-membrane of the vulva and vagina, involving generally the follicles so abundant there, and characterized by redness, heat, pain, or itching, accompanied by a discharge of green, white, or yellow muco-purulent matter, from between the labia. This discharge being but little or scant in some cases, is excessively profuse in others, producing not only excoriations of the labia and inner sides of the thighs, but if long continued affecting the general health, and causing anæmia, debility, etc. These symptoms are often accompanied by urethritis and dysuria, the children refraining from urinating as long as possible, owing to the burning pain accompanying the flow of urine over the inflamed surfaces, until finally with some effort and straining a sudden jet is forced out of the swollen meatus urinarius, accompanied or followed by a discharge of pus or purulent matter, whereupon comparative ease comes to the relief of the little sufferer.

Vulvo-vaginitis occurs at times almost epidemically. Rayer, in 1821, records the histories of twenty-nine cases, partly from his own practice and partly from others, which he divides into five classes:—1. Idiopathic; 2. Sympathetic; 3. Constitutional; 4. Metastatic; and 5. Specific.

Bertin, as early as 1810, distinguished the venereal discharges of new-born infants from those that were simply mucous. Monographs on this disease were also written by Schönfeld and Behrend. The latter makes five forms, namely, the phlegmonal, catarrhal, eruptive, diphtheritic, and syphilitic. The names explain themselves, and therefore need no elucidation.

#### CAUSE, PROGRESS, AND DURATION.

Rilliet and Barthez thus describe catarrhal vulvo-vaginitis:—"It is characterized by the discharge of a yellow or green, white, thick, fetid purulent matter, produced by inflammation of the follicles which abound about the external organs of generation. The labia are generally tumified, and of more or less redness, and sometimes the mucous membrane is partly excoriated. The ulcerations have in some cases been mistaken for chancres, or for the consequences of external violence." "Sometimes nothing is known of the disease except by the presence of spots of green matter upon the child's linen, which resemble exactly those of gonorrhoea."

The local symptoms which in some cases accompany this affection, when slight, are heat, pain, burning or itching, and a certain degree of inconvenience when walking; but we have seen several cases where nearly all these symptoms failed, and where it would have been impossible to recognise the disease, except by the linen.

The duration of the disease is from fifteen to thirty days, when acute; when chronic, from two to three months, and even longer. It is very liable, if of catarrhal nature, to return on exposure. J. Cooper Forster, in his work on the "Surgical Diseases of Children," Barriér, in his "*Maladies de l'Enfance*," Bierbaum, Von Düben, etc., etc., all give about the same descriptions, more or less concise or diffuse, essentially agreeing, however, both as to nature and duration. It is hardly necessary in this abstract to follow out minutely the course of the disease, but merely to say that, after the above or first stage, comes that of great abundance of discharge, or second period, less marked by inflammatory symptoms. The secretion is at first glairy, semi-transparent, then thick, opaque, puriform, whitish, then turning green and yellow, and producing spots of grey or greyish black upon linen. This discharge gradually diminishes, loses its acrid qualities, the inflammation disappears, and the disease is cured. In the mean time the excoriations caused by the discharge are healing, being no longer kept up by the acrimonious irritant.

#### ETIOLOGY.

The causes producing vulvo-vaginitis are numerous. Cooper Forster, Von Düben, Rilliet and Barthez, Barriér, and indeed all authors, charge filthiness, damp, unhealthy habitations, and unfavorable hygienic conditions generally, strumous constitutions, and bad general health, as causing the disease. Catarrhal affections, dentition, eruptive diseases, such as eczema and prurigo, herpes, etc., ascariides, constipation, gonorrhoea, syphilis, and masturbation in older children, are also accused. Finally, external injuries.

#### AGE.

The disease may occur at any period, from the new-born infant a few hours old, up to the age of womanhood or puberty. Prof. Jacobi, of Berlin, met it in a child two days old. Dr. Bierbaum says it is met most frequently during the period of dentition—say from two to eight years. Of eleven cases seen by Prof. Von Düben, all were under nine years of age, and one-half under five. Of the cases observed by me (six), four were under two years of age, and the rest under six years.

#### DIAGNOSIS.

The diagnosis of this disease is often very difficult, and, in many cases, of vast importance, medically as well as medico-legally. Scarcely a case occurs where the mother does not suspect some foul play with her child, especially



if over four to five years of age; and, if we base our judgment solely upon the color and quantity of discharge, it is in most instances impossible to distinguish between the simple disease and that produced by specific causes.

As a general rule the physician should assume that the disease arises from general causes or accidental local injury, and not from specific contagion or violence, until circumstantial evidence precludes the possibility of a doubt on this point; the physician thus taking ground (in view of his improved knowledge) in direct contrast with, and in opposition to the popular prejudice, which almost invariably ascribes the disease to immoral practices. The dangerous extent to which this prejudice is sometimes carried will be shown below.

This rule of action is laid down by all the best authorities, such as Wild, Von Döben, Forster, Bierbaum, Rilliet and Barthez, Dr. Keiller, Barriér, etc. Forster says, p. 123, "That such a disease as gonorrhoea, communicated by the foul contact of some person affected with that disease, does occasionally occur in young girls of four years and upwards, cannot be denied. But to distinguish it by any pathognomic symptoms from some cases of infantile leucorrhoea, is, I am bound to maintain, an impossibility. All practitioners are aware that it is the almost universal custom of mothers and nurses among the poor to attribute all cases of discharge in young girls to some such cause. Generally they come mysteriously whispering the child has been dandled on some one's knee, or there is a young man in the house whose linen is foul. *As a rule, not the slightest importance is to be attached to such statements.*" "Infantile leucorrhoea is not a rare disease, and it is high time that the minds of women should be disabused of this kind of prejudice. It is certain that only circumstantial evidence of the most unequivocal kind can lay any basis at all for such an imputation. No stress is to be laid on the symptoms, unless there are evident marks of violence." Barriér says, in this connexion, "the local condition often furnishes sufficient proofs. If, for example, we find about the genital organs ecchymoses or abrasions, erosions or excoriations, a discoloration or dilatation of the vulva; finally, if there are lacerations of the hymen and prolapsus of the urethra, it is highly probable that there has been an attempt to introduce a foreign body." With regard to the differential diagnosis, Prof. Keiller, of Edinburgh, declares it impossible to judge by the discharge alone whether it is specific or not, inasmuch as there is no difference discoverable by a microscopical examination of the pus, the corpuscles being the same in both. A large number of instances are given by various authors where criminal actions were threatened for supposed acts of violence, and where it was finally proved to have had nothing to do with such cause. Epidemics of this disease among children have frequently been observed. Wild, Von Döben, Durwall, Capuron, Spence, etc. (see Beck's "Med. Jurisprudence"), give cases of prosecution which were soon proved to be false, in some instances barely in time to save the victim from shame and dishonor.

#### PROGNOSIS.

The prognosis is generally favorable—the more the constitution is involved by reason of debility or bad hygienic conditions the longer will it take to cure. Where the disease depends upon local irritation only, it is less tedious though often obstinate. Only the diphtheritic form threatens serious consequences, or such violent inflammation as may degenerate into gangrene. When caused or kept up by worms, dentition, etc., it is of but temporary duration, and generally removed with the exciting cause.

The physician should, however, always put the patient or nurse on guard with reference to the danger of introducing the matter in the eyes—which would produce a dangerous inflammation, and possibly blindness. Wild quotes a case destroyed by sloughing of the cornea and staphyloma.

#### TREATMENT.

The treatment of vulvo-vaginitis is very simple. As its main causes are a bad state of the health, filthiness, local irritation, and inflammation, or temporary local causes, so the treatment must be mainly directed to these various points. Hence tonics, especially iron and quinine, are often indicated, assisted by cold water-baths and out-door exercise. The perchloride of iron is the form most commonly employed. When the local inflammation is very high, leeches may be employed with much advantage, followed by poultices. In most cases the sol. of nitrate of silver is the best local application that can be used—generally in the form of an injection from eight to twenty grains to the ounce, used once daily, the parts having previously been well syringed out with water. In very young children a piece of lint dipped in a solution of two grains of the nitrate to the ounce of water, and passed between the labia, is generally sufficient.

Besides this, alum, sulphate of zinc and copper, acetate of lead, tannin, etc. (Forster suggests their suspension in glycerine), are frequently employed, and with great advantage. In very mild cases, the use of simple anodyne infusions, such as inf. of poppy heads, or stimulants, such as flax-seed, are sufficient.

In order to prevent relapse, the essentials are, protection against exposure, prevention of the action of local irritants, and the general improvement of the health.

## American Medical Times.

SATURDAY, NOVEMBER 21, 1863.

#### EDUCATION OF INFANTS.

DURING the past week a child about four years of age died suddenly in a public school under the following circumstances, as narrated in the public prints:—"It is the habit of the teachers of that school to detain after hours such of the pupils as may have been deficient in their lessons during the day. Upon the occasion in question the deceased, with twelve other scholars, was kept in. Deceased seemed to take the punishment very seriously, and asked her teacher to allow her to go. The teacher, noticing her agitation, kindly told her that she might go as soon as she was able to spell correctly the word "hedge." This appeared to appease her, and she went to her seat. Soon, however, it was observed that the child threw her head back and was gasping for breath. The teacher took her in her arms and did all she could to relieve her, but after three or four spasms she expired."

We have in this case a sad but instructive commentary upon the evils of the American educational system. A child but four years of age is found at school, and is not only required to perform a given mental task, but is also subjected to the rigid discipline of the oldest scholars. Overcome by fear or grief, she falls into a syncope from which she never rallies. Such a singular phenomenon may well astonish the community. It were well for the rising generation if the lesson it teaches led to reformation in the management of children.

It is surprising at what a tender age children are placed in school, and brought under the restraints of a worse than prison discipline. At that period of childhood, or rather of infancy, when during its waking hours every muscle naturally requires activity and free play

for its proper development, the child is compelled to sit for hours as unmoved as a statue. But to this cruel restraint we have the additional evil that the child is confined to a room the atmosphere of which is infected with poisonous gases and foul exhalations from human bodies. The conditions necessary to retard the growth and development of the child are complete, and the result is always accomplished. We see many of the effects of such training in the feeble bodies, dwindled legs and arms, curved spines, and nameless other deformities of the adolescents. But how many unseen and unappreciated vices of development and growth are created by those causes! How destructive to the delicate organization of the nervous system is such training of the child, and how sadly are its functions perverted! In the case related we see how seriously the nervous system had become weakened, and how slight a cause completely overpowered it. We may well believe that this poor child is but a type of the children of our schools. Though such a melancholy termination of their pupilage is rare, yet thousands of children are doubtless brought to the very verge of the grave by the unhealthy influences acting upon their delicate organizations.

The vital question recurs: At what age should a child be sent to school? There can be no doubt that previously to the ages of six or seven the child should neither be subjected to systematic physical restraint, nor should its mind be tasked with appointed lessons. The full and perfect development of the body is a more important end to be attained in the training of the child than the cultivation of its mind. That system of education is perfect which secures these two objects. Previously to the age which we have fixed a child may be an apt scholar, though free from all bodily restraint. The cultivation of the powers of the body and mind may go together, and is productive of the very best results. We see in the Kindergarten of the Germans the very perfection of this system of training. Here the infant is free to play and romp in the open air, amid a profusion of flowers, or on the grass lawn, watched by a careful and tender nurse, who acts at the same time as teacher. While the child revels in the pure air and sunshine, it imperceptibly learns the lesson of the day.

But though we are unable to place a child in a school so favorable for its due and proper training, a faithful parent may accomplish much by personal instruction while the child still enjoys the most perfect freedom. In commenting upon this subject, a recent and very able writer\* has said: "Instinctively the young child seeks for knowledge of some kind, and its spontaneous efforts may be safely allowed. With a little management, indeed, they may be made subservient to very important acquisitions. In the same way that it learns the names of its toys and playthings, it may learn the names of its letters, of geometrical figures, and objects of natural history. There can be but little danger of such exercises being carried too far. But the discipline of school, if obliging the tender child to sit upright on an uncomfortable seat for several hours in the day, and con his lessons from a book, is dangerous both to mind and body. To the latter, because it craves exercise almost incessantly, and suffers pain, if not distortion, from its forced quietude

and unnatural postures. To the former, because it is pleased with transient emotions, and seeks for a variety of impressions calculated to gratify its perceptive faculties. The idea of *study* considered in relation to the infant mind, of appropriating, assimilating the contents of a book, of performing mental processes that require a considerable degree of attention and abstraction, indicates an ignorance of the real constitution of the infant mind, that would be simply ridiculous, did it not lead to pain, weariness, and disgust. And such is the strange abandonment of all practical common sense on this subject, that many a person fails to view this practice in its true light, who would never commit the folly of beginning the training of a colt by taking it from the side of its dam, harnessing it to a cart or plough, and keeping it at work through a sultry summer's day."

### THE WEEK.

At the next meeting of the Surgical Section of the Academy of Medicine, which will be held at the house of Dr. JAMES R. WOOD, a subject of unusual importance is to be brought forward. We refer to the discussion on amputations in gunshot fractures of the thigh. PROF. HAMILTON will give his experience in detail while in the army. It is anticipated that the surgeons of the foreign ships in the harbor will be present, and take part in the discussion. No question in military surgery has received more attention than this, and still it remains unsettled. If this discussion shall elicit the opinions of our most experienced surgeons, an important chapter will be added to the history of the subject.

THE Sanitary Commission have commenced the publication of a Bulletin. It is issued on the first and fifteenth of each month, and is devoted to an exposition of the sanitary condition of our armies, and the great objects which the Commission have undertaken to accomplish. This Bulletin will prove a valuable auxiliary to the Commission by enlightening the community as to the kind of aid that is required, and the means of applying it. The paper also contains accurately written reports detailing much of interest in regard to the condition of the different army corps. We trust that it will find its way to every family in the North and West. The design of the Bulletin is thus stated in the prospectus:—"We purpose to make the Bulletin the place where all information necessary to soldiers or to soldiers' families is to be found. Who are entitled to bounties and pensions, and how to procure them at the least expense, and with the most certainty; how furloughs are obtained; how our prisoners of war in the enemies' hands may be communicated with; how to get convalescents or sick men home; everything about the burial of the dead; these and similar questions will be carefully and reliably answered in our columns. The Bulletin will be extensively circulated in the Army. It will also be sent to all our associate members—to all subscribers or donors to our funds—to every sewing circle contributing to our supplies—to such clergymen as apply for it for purposes of guiding their efforts—and to such other persons as we think fitted to use profitably, for the benefit of our sick and wounded, the information it contains. It will be furnished also to subscribers at \$2 a year, and to single purchasers at 10 cents a copy."

\* Bay on Mental Hygiene.

DR. MACGOWAN, the distinguished American missionary, has communicated the following note on polydactylous anomalies among Virginia negroes to the American Ethnological Society:—

"My attention has been recently directed to the birth of a six-fingered child in an encampment of contrabands, or negro fugitives, which is under my charge, in connexion with the Harewood General Hospital, U.S.A., Washington, D.C.

"From remarks made by the midwife, and from the dexterous manner in which she had severed the supplemental fingers, I was led to institute inquiries relative to the comparative frequency of supernumerary digits among the Virginia negroes, in the encampment of this city, Arlington Heights, and Alexandria. The result surprised me. On questioning and carefully cross-examining thirteen midwives, and from investigations made in several schools, I am disposed to estimate these polydactylous monstrosities at one per cent. among the negro births in Northern Virginia.

"Anomalies of this description are more common in China than in Europe among descendants of Europeans; yet in that part of Asia one finds but one case in several thousand births. It is desirable that facts relating to deformities of this description among aborigines and half-breeds should be communicated by members of the Ethnological Society, who may have access to sources of information on the subject.

"The supplemental fingers were in every case imperfectly developed, or rudimentary, and uniformly of the kind denominated by M. Isidore Geoffroy de St. Hilaire, a prolongation of the series; that is, being an additional little finger, and almost invariably attached by integument to the external surface of the second phalange. In no case that has come under special notice have the 'twin fingers' (as the negroes call them) been capable of extension or flexion. The nails are generally pretty well developed. There is a uniform symmetry in these deformities; that is to say, they are never found on one hand only—they are always in pairs.

"Cases of supernumerary toes are rare. Some midwives apply a silk thread at the point of attachment as soon as the new-born infant is dressed, which causes the sixth finger to fall off in a few days. Others effect the removal with scissors, applying a styptic to arrest the hæmorrhage—the parasitic fingers found on the ears of corn, called 'corn-rust.'

## Reviews.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, FOR THE YEAR 1863. Albany: 1863.

(Concluded from page 234.)

ARTICLE XIV.—*On Deformity of the Feet, and their Treatment with Plaster of Paris.* By DEWITT C. ENOS, M.D., Professor of Anatomy in the L. I. College Hospital, Surgeon of the Brooklyn City Hospital, &c.—Prof. Enos thus describes the mode of using the plaster of Paris:—"Take a straight piece of muslin, wide enough to embrace or nearly embrace the head of the tibia, and long enough to extend down from the head of the tibia around the heel and as far as the great toe; then cut, or rather tear five or six other pieces the same size; next stir some plaster of Paris in a little warm water till it is about the consistency of cream; place upon a board or table one of the pieces of muslin, and put on it a tablespoonful or two of the plaster, and with a long knife spread it evenly over the cloth, so that it shall be wet and thinly covered; place upon this another piece of muslin smoothly; and with some more of the plaster spread this like the first, and so continue to spread layer after layer until the last, which you do not

spread, or if you do, cover the plaster with a thin layer of raw cotton, which shall come next the limb. Place it behind the leg, and first bend it around the head of the tibia, and let an assistant hold this firmly, while you next apply it to the sole of the foot as far as the great toe; if it should be longer, turn it back on itself, so as to leave the toes exposed; next bend it around the foot, so as to neatly embrace it to the instep; there is now a redundancy of cloth at this angle of the foot and leg; this is disposed of by folding it down on itself, so that you can smoothly apply the remainder to the ankle and leg. A roller is now closely applied from the toes to the knee and back again, so that this dry cloth may absorb the moisture from the plaster, and thus facilitate its setting. As soon as the roller is applied, you grasp the foot and ankle in your hands and forcibly press the foot towards its normal position, holding it steadily ten or fifteen minutes till the setting has made it firm."

Prof. Enos reports a case at length, and concludes his paper with a consideration of the causes of clubfoot, union of tendons, &c.

ARTICLE XV.—*A Case of Morbid Growth; Characteristic Symptoms of Cancerous Cachexia.* By NELSON NIVISON, M.D.

ARTICLE XVI.—*Professor Nelaton's recently invented Probe for exploring Gunshot Wounds in Bone, where there is lodgment of a Ball, as in the case of Gen'l Garibaldi.* By ALDEN MARCH, M.D.

ARTICLE XVII.—*Fracture of the Lower Jaw treated by a new method.* By AUSTIN L. SANDS, M.D., of New York.

ARTICLE XVIII.—*Case of Prolapsus Uteri of fifteen years' duration, with extensive Ulceration of the Neck—Cure, by Reposition, with Diagram.* By ISAAC E. TAYLOR, M.D., New York.

ARTICLE XIX.—*Tracheotomy in Diphtheria.* By WILLIAM GILFILLAN, M.D., of Brooklyn.—Dr. G. reports a successful case of tracheotomy in diphtheria, and gives the following indications for its performance:—"When the patient's strength is good, and the general symptoms fair, if there is great difficulty in respiration, as evidenced by slight lividity, stridor, and considerable sinking in of the parietes of the chest on respiration, then I believe the operation of tracheotomy affords the best, if not the only hope of the patient's recovery, and is then strongly indicated." He gives us the only contra-indication, *too great exhaustion or depression* of the vital powers. The paper contains an interesting discussion of the various questions at issue on this subject.

ARTICLE XX.—*Cases of Ovarian Dropsy, treated by Iodine Injections.* By D. G. THOMAS, M.D., of Utica.—Dr. T. reports two successful cases of injection of the ovarian sac with iodine. This operation has attracted but little attention in this country, and the profession are indebted to Dr. Thomas for a full report of these cases.

ARTICLE XXI.—*Ovarian Disease and Ovariectomy.* By AUGUSTUS K. GARDNER, A.M., M.D., late Professor of Diseases of Females, New York Medical College: Fellow of the New York Academy of Medicine, &c.—Dr. Gardner reports an unsuccessful case of ovariectomy.

ARTICLE XXII.—*Diphtheria.* By AUGUSTUS L. SAUNDERS, M.D., Brookfield. In regard to treatment Dr. S. says:—"The treatment I have found most successful has been to evacuate the bowels with a cathartic that would act upon the secretions with the least possible tax on the energies of the system, and at once commence a tonic and stimulating course proportioned to the severity of the attack and the character of the symptoms."

ARTICLE XXIII.—*Report on Gangrene of the Mouth and Fauces,* observed at the U.S. General (Marine) Hospital, New Orleans, La. By RUFUS KING BROWN, Surgeon-in-charge.—The substance of this elaborate paper has already appeared in this Journal.

ARTICLE XXIV.—*Pelvic Presentation, its Philosophy and Treatment.* By J. V. P. QUACKENBUSH, M.D., Prof. Obstetrics, Albany Medical College, Albany, N. Y.—This paper

has also appeared in the *MEDICAL TIMES*, and attracted deserved attention.

**ARTICLE XXV.**—*A Case of Delirium Tremens*, treated by large doses of Tincture of Digitalis. By S. BARRETT, M.D., of Le Roy, Genesee Co. The following extract gives the treatment of this case:—"I ordered all stimulants to be withheld, and gave him half ounce of tinct. digitalis, of the official strength, and directed the same quantity to be given every six hours, unless he became quiet. At 12 m., 19th, I found him rational; had retained the medicine, except a part of one dose; three doses in all had been given him; had slept some; his pulse 100, and more steady. I gave him another dose of half ounce, and directed him to have two more, of two drachms each, at intervals of eight hours. As he was pretty nervous, I directed him to have half a grain sulph. morphia, at evening, also to have beef-tea in small quantities. 20th.—He had slept about four hours; his pulse had become nearly normal; heat and burning thirst subsided; head free from pain, and appetite returning. From this time he convalesced rapidly, and took no more medicine of any kind."

**ARTICLE XXVI.**—*A Case of Insanity*. By GEORGE COOK, M.D., Brigham Hall, Canandaigua, N. Y.

**ARTICLE XXVII.**—*Cases of Small-Pox and Varioloid*. By HIRAM CORLISS, M.D., of Greenwich, N. Y.

**ARTICLE XXVIII.**—*Statistics of some of the Diseases of New York and London*. By CYRUS RAMSAY, M.D., Registrar of Records and Statistics, City of New York.

**ARTICLE XXIX.**—*Mortality of the City of Buffalo, New York*.

**ARTICLE XXX.**—*Report of the Committee appointed to draft a Sanitary Code for the State of New York. Presented by DR. THOMAS C. BRINSMADE, Chairman.*—The committee propose: I. A Central Board of Health, composed of men of scientific eminence and approved public spirit, holding their official positions for a series of years, a fair proportion of whom should be physicians. It should have the power to elaborate a general sanitary code for the guidance of all local boards; to compel regular reports from all local boards; to consider all cases relating to the general sanitary interest of the State, and devise such measures or recommend such laws as might require legislative action or power for their control. It should devise and perfect a practicable system for the complete registration of all marriages, births, deaths, and other vital statistics. It should consider the sanitary relations of all internal improvements projected by the State, and consider all laws relating to the use and application of mechanical or chemical powers. II. The Local Boards in our large cities and towns should be composed of three bureaux, which should respectively control, 1st, The opening, grading, cleansing, and repairing of streets, alleys, and highways, and the planning, constructing, and purifying of all sewers, cess-pools, and systems of drainage, whether public or private; 3d, the supply, distribution, and use of water; 3d, the sanitary bureau, which should control the report and regulation of all marriages, births, and deaths; the supervision, and, when necessary, the care of all affected with contagious diseases; the inspection and removal of all nuisances, public and private; and, in short, the local application and efficient working of the "*General Code of Health*." In the smaller towns and villages the whole duties may be performed by a small board and a health officer. The committee were continued.

**ARTICLE XXXI.**—*Summary of Seven Daily Observations of the Temperature, Moisture, Weight, Direction, and Condition of the Atmosphere, for the Year 1862. Report at 57 Essex Street, New York.* By J. P. LOINES, M.D., Chairman of the Meteorological Committee of the New York County Medical Society.

**ARTICLE XXXII.**—*Report on the United States Pharmacopœia, February, 1863.* By EDWARD R. SQUIBB, M.D., Chairman.

**ARTICLE XXXIII.**—*Report from the New York County Medical Society.* By GUIDE FURMAN, M.D., Secretary.

**ARTICLE XXXIV.**—*Communication from the Massachusetts Medical Society.*—This communication relates to the ambulance system, urged so eloquently upon the notice of Government, by Dr. Bowditch.

**ARTICLE XXXV.**—*Report of Committee on Medical and Surgical Statistics.*—DR. ORTON, of Binghamton, Chairman of this Committee, made a brief report, and asked an extension of time.

**ARTICLE XXXVI.**—*Regimental Surgeons of the State of New York, in the War of the Rebellion, 1861-3, Alphabetically arranged.* By SYLVESTER D. WILLARD, M.D., of Albany.—In the last volume of Transactions, Dr. Willard presented a list of Surgeons from this State, in the military service of the United States. The present report is much more full, and is an invaluable historical document. The profession is greatly indebted to Dr. W. for these records.

**ARTICLE XXXVII.**—*Merit H. Cash Prize Essay.*—The subject proposed for the essay is, "How complete is the protection of vaccination, and what are the dangers of communicating other diseases with the vaccinia?" The competition will be confined to physicians residents of the State of New York. The essays will be sent in the usual way, with the name of the author, in sealed envelope, to either of the committee, Dr. Thomas W. Blatchford, of Troy, Dr. Edward H. Parker, Poughkeepsie, or Dr. John Ordronaux, 823 Broadway, New York city, on or before the fifteenth day of December, 1863. The decision of the committee will be announced at the meeting of the society in 1864, and the successful essay will be published in the Society's Transactions. The prize will be awarded in money, or in such a form as may be more acceptable to the successful author.

**ARTICLE XXXVIII** consists of *Notices of Deceased Members*, as follows:—Of Dr. Zenas Carey, of Troy, N. Y. by THOMAS W. BLATCHFORD, M.D.; of William S. Norton, M.D., by S. D. WILLARD, M.D., Albany; of Barto White, M.D., for the Medical Society of the State of New York, by SYLVESTER D. WILLARD, M.D., of Albany.

In concluding this notice we repeat the remark with which we began, that the volume is one of increasing value. The Society at home and abroad has gained an important position among the institutions of the State. It outlives any similar institution in the country. For much of its present prospects the profession is indebted to its Secretary, Dr. Willard, who has labored with indomitable perseverance and zeal in its behalf for many years. The business of the Society is punctually attended to in its fullest details; the large correspondence is promptly dispatched; every arrangement is made for the annual meetings; certificates and notices are promptly sent to the members; and the editorial arrangements and labor on the volumes (which labor often extends to weeks or months) have always been cheerfully and gratuitously performed. The benefits of these labors have accrued for the reputation of the Society to which Dr. Willard has proved an accomplished and efficient officer.

## Army Medical Intelligence.

### CIRCULAR.

SURGEON-GENERAL'S OFFICE.  
WASHINGTON CITY, D.C., November 12, 1863.

MEDICAL DIRECTORS of Military Departments will immediately furnish this office with a list of medical officers of the Regular U.S. Army, and of surgeons and assistant surgeons of the Volunteer Staff, in their respective Departments, who have been on duty in General Hospitals for more than one year.

Medical Directors of Armies in the field will immediately furnish this office with a list of medical officers of the Regular U.S. Army, and surgeons and assistant surgeons of the Volunteer Staff, who have been on duty in the Field for more than one year.

Both lists will give the lengths of service in either position, with such special information or recommendation as may be useful in reassignments, according to nature and length of service.

Very respectfully,  
Your obedient servant,

By order of the Act. Surgeon-General.  
(Signed)

C. H. CRANE,  
Surgeon, U.S.A.

#### GENERAL ORDERS, NO. 355.

WAR DEPARTMENT, ADJUTANT-GENERAL'S OFFICE.  
WASHINGTON, D. C., Nov. 4, 1863.

Medical Directors of armies in the field will forward, direct to the Surgeon-General, at Washington, duplicates of their reports to their several Commanding Generals of the killed and wounded, after every engagement.

By order of the Secretary of War.

F. D. TOWNSEND,  
Assistant Adjutant-General.

Official.

#### ORDERS, CHANGES, &c.

Asst.-Surgeon E. C. De Forrest, 78th Ohio Vols., has been discharged the service on account of incompetency.

So much of Special Orders No. 819, Sept. 8, 1862, from Headquarters, Department of the Mississippi, as mustered out of service Surgeon Rainer Schallern, 68th Ohio Vols., for absence without leave, has been revoked, and he is honorably discharged the service of the United States, to date September 17, 1862, he having produced satisfactory evidence that he was properly absent until July 31st, 1862, the date at which he returned to his regiment for duty, and that he performed service up to September 17, 1862, the date on which he received the order mustering him out of service.

Asst.-Surgeon John Everhart, 12th Kansas Vols., has been discharged the service of the United States, he having refused to appear before a Medical Board of Examination appointed to report upon his qualifications as a Medical Officer.

The following promotions and appointments in the Volunteer Medical Staff have been made during the week:

Assistant-Surgeon Jabez Perkins, to be Surgeon.

O. B. White, M.D., of Louisiana, to be Assistant-Surgeon.

O. F. Bushane, M.D., of New York, to be Assistant-Surgeon.

E. D. Buckman, M.D., of Pennsylvania, to be Assistant-Surgeon.

The following officers (published officially October 12, 1863) having failed to appear before the Military Commission, instituted by Special Orders No. 63, current series, from the War Department, within the prescribed time, the President directs that they be dismissed the service of the United States, for the causes and at the dates set opposite their respective names.

Failing to report at Headquarters, Provost-Marshal's Office, under arrest, as ordered:—Surgeon William Worthington, 98d Pennsylvania Vols., October 12, 1863.

By direction of the President, the following officers are hereby dishonorably dismissed the service of the United States for the causes set opposite their respective names:—Assistant-Surgeon W. D. Towner, 15th New York Vols., for conduct unbecoming an officer and a gentleman, drunkenness while on duty, and violation of arrest.

Surgeon Thomas B. Reed, U.S.V., has been relieved from duty in the Department of the Gulf, and will proceed without delay to Clarksburg, Va., and report for duty in person to the Medical Director, Department of Western Virginia.

Assistant-Surgeon J. K. Rogers, U.S.V., has been relieved from duty in the Department of the South, and will proceed without delay to St. Louis, Mo., and report in person to the Medical Director at that place for duty.

So much of Special Orders No. 478, War Department, as directed Surgeon H. S. Hewitt, U.S.V., to report in person to the Medical Director, Department of the Tennessee, has been revoked, and he will at once report in person to the Medical Director, Department of the Cumberland, for duty.

Assistant-Surgeon J. S. Smith, U.S.A., has been relieved from duty in the Department of the South, and assigned to duty in charge of the De Camp Hospital, David's Island, N. Y.

The following appointments have been made during the week:—

Dr. James H. Thompson, Surgeon 12th Maine Volunteers, to be Assistant-Surgeon of Volunteers.

Dr. R. H. Wevill, late Surgeon U.S.V., to be Surgeon 10th U.S. colored troops.

Dr. Charles G. Polk, of New York, to be Assistant-Surgeon 8d U.S. colored troops.

Dr. Ira Perry, of Massachusetts, to be Assistant-Surgeon 9th U.S. colored troops.

Surgeon John L. Teed, U.S.V., and Assistant-Surgeon E. T. Whittingham, U.S.A., have tendered their resignations.

Surgeon M. Goldsmith, U.S.V., has been ordered by Surgeon-General Hammond to visit the General Hospitals at New York, Baltimore, Philadelphia, and Washington, with a view to collect material for his report on hospital gangrene, which has been so successfully treated by Surgeon G. in the hospitals at Louisville, Ky.

So much of Special Orders No. 406, September 6, 1863, from the Adjutant-General's Office, as discharged Assistant-Surgeon Horace Babcock, 9d Kentucky Volunteers, on account of physical disability, and for absence without leave, has been so amended as to omit the charge of

absence without leave, he having furnished satisfactory evidence that he was absent with proper authority.

So much of Special Orders No. 488, October 19, 1860, from the Adjutant-General's Office, as assigned Assistant-Surgeon R. Fletcher, U.S.V., to duty in the Department of the Ohio, is hereby revoked, and Surgeon Fletcher will report in person without delay to the commanding General, Army of the Cumberland, for duty as Medical Purveyor at Nashville, Tenn.

Surgeon James D. Strawbridge, U.S.V., will repair at once to Annapolis, Md., and report to Brig.-General Graham, U.S.V., senior officer of the Board convened by Special Orders No. 294, Adjutant-General's Office, for the examination of sick officers.

Assistant-Surgeon Thomas McMillin, U.S.A., has been relieved from duty in the Army of the Potomac, and will report in person without delay to the Surgeon-General, U.S.A., at Washington, D. C., to settle up his accounts as Medical Purveyor of the Army of the Potomac.

Surgeon J. H. Taylor, U.S.V., has been relieved from duty as Medical Inspector of the Army of the Potomac, and will report in person without delay to Surgeon John Campbell, U.S.A., Medical Director at Philadelphia, Pa., for duty in that city.

Assistant-Surgeon C. B. White, U.S.V., will report in person without delay to the commanding General, Department of the Gulf, at New Orleans, La.

Assistant-Surgeon E. D. Buckman, U.S.V., will report in person without delay to the commanding General, Department of the South, at Hilton Head, S. C., for duty.

Assistant-Surgeon L. K. Stone, U.S.V., will report in person without delay to the commanding General, Department of West Virginia, at Clarksburg, Va., for duty.

Assistant-Surgeon C. F. Brisbane, U.S.V., will report in person without delay to the commanding General, Army of the Potomac.

Assistant-Surgeon W. T. Hicks, 7th Virginia Vols., having tendered his resignation on account of not being a graduate of medicine, is hereby discharged the service of the United States, with condition that he shall receive no final payments until he has satisfied the Pay Department that he is not indebted to the Government.

At the request of the Governor of Maryland, Surgeon John M. Stevenson, 8d Maryland Volunteers, has been honorably discharged the service of the United States, he having been commissioned by the Governor as Surgeon of a regiment of Maryland Cavalry.

Upon the recommendation of a Board of Officers convened by Special Orders 294, July 8, 1863, from the Adjutant-General's Office, Assistant-Surgeon Edson Boyd, 112th New York Vols., is honorably discharged the service of the United States, on account of physical disability, with condition that he shall receive no final payments until he has satisfied the Pay Department that he is not indebted to the Government.

The following officers having tendered their resignations, are honorably discharged the service of the United States on account of physical disability, with condition that they shall receive no final payments until they have satisfied the Pay Department that they are not indebted to the Government:—

Surgeon Darius Mason, 81st Wisconsin Vols.

Assistant-Surgeon Solomon Blood, 32d Wisconsin Vols.

Assistant-Surgeon F. A. Bushey, 4th Pennsylvania Cavalry.

Leave of absence for twelve days has been granted to Acting Assistant-Surgeon J. C. Shimer, U.S.A.

Assistant-Surgeon H. M. Sprague, U.S.A., now on leave of absence from the Army of the Tennessee, is hereby relieved from duty with that army, and will repair to New York city and relieve Surgeon George Taylor, U.S.A., as a member of the Medical Board, now in session at that city, for the examination of Surgeons and Assistant-Surgeons for colored regiments, and for such other duty as the Medical Director of the Department of the East may assign him. As soon as relieved Surgeon Taylor will resume his duties in charge of the General Hospital, at Newark, N. J.

Surgeon Charles Sutherland, U.S.A., is relieved from duty as Medical Director of the Department of Virginia and North Carolina, and will repair to Wilmington, Delaware, and report to the President of the Retiring Board, in session there, as a member of the Board, to take the place of Surgeon Charles McCormick.

Surgeon Charles McCormick, U.S.A., is relieved as member of the Retiring Board in session at Wilmington, Delaware, and assigned to duty as Medical Director of the Department of Virginia and North Carolina, to the Commanding Officer of which he will accordingly report in person.

## Medical News.

**SURGEON JAMES BRYAN**, of Philadelphia, who is on a short sick leave from Gen. Grant's staff, is rapidly recovering from a severe attack of bilious remittent fever, contracted during the siege of Vicksburg, and hopes to be able to resume duty in a Northern Department in a short time.

**DR. ALFRED L. LOOMIS**, of the Sixteenth Ward, N. Y., has been appointed Surgeon to the Enrolling Board in the Sixth District.

**DR. E. L. HOLMES**, one of the leading oculists of the West, has been appointed Surgeon to the Chicago Eye Infirmary.

**DR. C. J. VAN CORT**, of Morrisania, has been arrested for attempting to bribe Dr. Upham, the examining surgeon, to pass four drafted men.

**DR. WINSHIP** daily raises 2,600 pounds, and intends to increase his burdens to 3,000.

## Original Lectures.

### LECTURES ON

### THE MORBID CONDITIONS OF THE BLOOD.

DELIVERED AT

THE BELLEVUE HOSPITAL MEDICAL COLLEGE.

PRELIMINARY TERM, SESSION OF 1893-4.

By AUSTIN FLINT, M.D.,

PROF. OF THE PRINCIPLES AND PRACTICE OF MEDICINE.

### LECTURE V.

*Excess of Uric Acid in Gout.—Uremia.—Retention of Excrementitious Principles contained in the Vapor of Expiration.—Do. in Perspiration.—Resorption of Bile, or Cholaemia.—Cholesteraemia.—Morbid Conditions relating to the Saline Constituents of the Blood.*

Uric acid, the other important organic constituent of the urine, exists in a small quantity in the blood in health, as shown by the late researches of Garrod. Garrod has also shown that it exists in an abnormal quantity in gout. He regards this morbid condition as sustaining a special causative relation to the phenomena of gout.\* Uric acid enters into the composition of the deposit around and within the joints, between the tubuli of the kidneys, and sometimes in other situations, which are characteristic of this disease. Moreover, Garrod's researches show that the excretion of uric acid in the urine is often notably diminished during a paroxysm of gout, and that this constituent of the urine is habitually lessened in the chronic form of the disease. The kidneys, in persons affected with gout, seem to lose, to a greater or less extent, the faculty of excreting uric acid, the faculty of excreting urea remaining intact. It is an interesting fact that in acute rheumatism the uric acid in the blood is not in excess, and the quantity in the urine is apt to be increased. This fact, according to the author just named, goes to establish the non-identity of gout and rheumatism, although, as regards their local manifestations, these two diseases bear a close analogy.

Assuming that the pathology of gout involves an excess of uric acid in the blood, the question arises whether this excess be due to an accumulation from insufficient excretion, or whether it may not be produced in too large quantity. Garrod holds the opinion that both explanations are applicable. He thinks, also, that a reduction of the alkaline condition of the blood favors the deposition of the urates, which experiments show to be precipitated out of the body in a solution to which a weak acid is added, while they are held in solution so long as the fluid remains alkaline. This view of the pathology of gout is certainly rendered highly probable by the facts which Garrod's researches appear to establish. It remains to determine whether an excess of uric acid in the blood be not a morbid condition existing in other affections as well as in gout. Garrod has found it to exist in cases of lead poisoning. Continued researches may show that this is not the only exception to its belonging exclusively to gout, and it may be found to stand in a causative relation to other phenomena than those which characterize this disease. An excess of uric acid (in the form of urates) in the blood constituting a condition differing from uraemia, it is desirable to distinguish it by a name, and if I might venture to coin a term, I would propose for this purpose *uricaemia*.

The therapeutical indications in this condition are to introduce alkalies into the blood in order to hold the urates in solution, and to promote elimination through the kidneys by diuretic remedies. Clinical experience appears to sustain the correctness of these indications. The late Dr. Buckler, of Baltimore, suggested as a remedy for gout on chemical grounds the phosphate of ammonia, the ammonia

being supposed to combine with the uric acid and the phosphorus with the soda, forming two soluble compounds which are readily eliminated by the kidneys. Various clinical observers have borne testimony to the utility of this remedy.

In addition to the kidneys, the lungs, the skin, the liver, and, perhaps, the mucous membrane of the intestinal canal, take part in the elimination from the body of excrementitious principles, and an arrest or impairment of the excretory functions of these organs may lead to an accumulation of noxious matters in the blood. It remains to notice briefly the supposed morbid conditions thus produced.

The most important purpose of respiration, so far as excretion is concerned, is the elimination of carbonic acid. The undue retention of this gas has already been noticed as an element of apnoea. It is not improbable that the vapor of the expired breath contains excrementitious principles. It is well known that various medicinal substances and certain constituents of some articles of food escape through this channel, and the retention of the indeterminate substances contained in the extractive matters of the expired moisture may give rise to various effects, either directly or by inducing catalytic changes in the blood. But we have no positive knowledge with regard to blood-poisoning from this source.

The chief purposes of the perspiration appear to be the elimination of water and the regulation of temperature. The proportion of solid matter in the perspired fluid is small, chloride of sodium being the largest ingredient. The excrementitious principles which, if retained, may give rise to morbid conditions of the blood, must be contained in the extractive matter of the sweat. The odor frequently accompanying emanations from the skin shows that something is eliminated which, we may imagine, would be noxious if retained. It is generally thought that important excrementitious principles are eliminated by the skin, but this is a conjecture rather than a conclusion based on actual knowledge. Observation appears to show that disease not unfrequently originates from suppression of the cutaneous transpiration. It is a popular notion that many diseases are thus produced. The importance of this, as a source of disease, is doubtless vastly over-rated, yet the general opinion is not devoid of foundation. The occurrence of disease, however, in consequence of the action of cold on the surface, is not to be explained exclusively on the hypothesis of retention of excrementitious principles. When the functions of the skin are arrested by cold, there are two other modes in which we may suppose disease to be produced. One of these relates to the circulation. The blood being driven from the surface must accumulate in the internal organs, giving rise to congestion. The other mode relates to the increased supplementary activity of certain organs to compensate for the deficient elimination from the skin. The kidneys and lungs antagonize the skin in this regard, and if the kidneys fail, the labor of performing the eliminative function of the surface falls upon the lungs; hence, disease of the latter, an excessive physiological activity of an organ being liable to end in a pathological condition. Perhaps these two modes of operation will account for the production of disease in consequence of suppressed cutaneous transpiration, in the majority of instances.

With our present knowledge respecting bile, it is to be considered as embracing both excrementitious and recrementitious principles. The biliverdin or coloring matter does not exist preformed in the blood, but is produced within the liver. But cholesterine, which enters into its composition, does exist in the blood. This constituent, there is reason to believe, is excrementitious. Late experimental researches appear to have established that its source is the disassimilation of nervous tissue. It is contained more abundantly in the venous blood coming from the brain than in the arterial blood going to the brain. It is found in larger quantity in the portal than in the hepatic

\* The Nature and Treatment of Gout and Rheumatic Gout. By Alfred Baring Garrod, F.R.S., etc. London, 1869.



vein, and this fact, taken in connexion with the facts of its presence in the bile, goes to show that one of the functions of the liver is the elimination of this substance, which appears in the feces in the form of another variety of non-saponifiable fat, which has been called *seroline*, and which it has recently been proposed to call *stercorine*.\* Other substances, viz. *leucine* and *tyrosine*, have been found in bile, and it is probable that these are excrementitious, but their physiological and pathological relations are not yet satisfactorily ascertained.

The presence of bile in the blood constitutes the morbid condition called *cholæmia*. It will be considered hereafter as an individual disease under the name of *icterus* or *jaundice*, but it is an event which is incidental to various affections. *Cholæmia* is manifested by the yellow or greenish coloration of the conjunctiva and cutaneous surface. As in the case of sugar in the general circulation, it is eliminated to a greater or less extent by the kidneys, and therefore found in the urine in abundance. In the great majority of cases it depends on obstruction of the passage of bile from the liver to the duodenum. It rarely accompanies structural affections of the liver, such as cirrhosis, fatty deposit, carcinomatous and tuberculous exudation, etc. These facts go to show that it occurs from the resorption of bile after the secretion has taken place, and not from defective secretion. Defective secretion, however, either with or without obstruction and resorption, doubtless occurs, and under these circumstances the excrementitious constituents of the bile, which are preformed in the blood, i. e. *cholesterine*, will accumulate if not vicariously eliminated. The non-resorption of bile has been called *acholia*. Occurring either in cases of *icterus*, or independently of the phenomena of the latter, it may give rise to a condition of the blood more immediately serious than the condition caused by the resorption of bile or *cholæmia*.

*Cholæmia* does not, in general, occasion serious effects. Patients are not always greatly incommoded by this condition. The reabsorbed bile appears to exert a narcotic influence more or less marked on the nervous system, producing dulness of the mental faculties, slowness of the pulse, and torpor of the functions generally. If, however, the condition be prolonged, the red globules are impaired, hæmorrhages are apt to occur, and the kidneys may become affected so as to lead to *uræmia*.

All clinical observers, however, have been led to observe exceptional cases of *cholæmia*, in which the bile appears to exert an intensely noxious influence on the nervous system, inducing coma and death. Excluding cases in which the supervention of *uræmia* may account for these results, they may be attributed to the retention and accumulation in the blood of the excrementitious principles of the bile, and perhaps especially *cholesterine*. There are grounds for believing that the accumulation of *cholesterine* in the blood gives rise to a special form of blood-poisoning, to which the name of *cholesteræmia* has been applied. The grave consequences of *acholia* may be explained in this way. And it is to be borne in mind that *acholia* is not necessarily associated with *cholæmia*; in other words, the non-secretion of bile may be without as well as with obstruction and resorption, giving rise to the phenomena of jaundice. It is not improbable that a deficient elimination of *cholesterine* may give rise to more or less of those indefinite symptoms which are commonly embraced under the name of *biliousness*, and which are relieved by remedies supposed to act upon the secretory function of the liver.

It has been supposed that one of the functions of the intestinal canal is the elimination of excrementitious principles from the blood. The fluid formed by the glands of Lieberkuhn in the small and large intestine, may be, in

part, excretory. This, however, is at present only a conjecture. There are no known facts which show that the retention of principles contained in the intestinal juice, constitutes a morbid condition of the blood.

Morbid conditions pertaining to the *saline constituents* of the blood, will claim very brief notice, because, although it is highly probable that they are the seat of important changes, we have very little positive knowledge respecting them. Enumerated in the order of their relative quantity, the more important of the salts in the blood are, the chloride of sodium, carbonate of soda, chloride of potassium, phosphate of soda, and sulphate of potass. The average amount of the salts, collectively, in healthy blood is estimated to be from seven to eight in 1000 parts. Our knowledge of the physiological changes and uses of these constituents is far from being complete, but they are manifestly important as supplying matter required for the several tissues, and for various secreted fluids. Moreover, they are concerned in the preservation of the red globules, in the solution of albumen, in maintaining the alkalinity of the blood, in the regulation of the passage of liquids through the coats of the vessels in the processes of endosmosis and exosmosis, etc.

The alkaline salts (carbonate of soda and potass) have been found to undergo considerable fluctuations in disease. They are much diminished in inflammations, and increased in the eruptive and continued fevers. The supposed utility of mineral acids in the essential fevers is consistent with a super-alkalinity of the blood. As already stated, a deficiency of the alkaline salts is supposed by Garrod to be concerned in the deposition of uric acid in gout. And in articular rheumatism the employment of alkaline remedies, as advocated by Fuller and others, is based on the theory of neutralizing an acid, supposed to be the lactic, in the blood. The pathology of diabetes has been thought to involve a deficiency of alkalies in the blood, and, hence, the value of alkaline remedies in certain cases.

The researches of Garrod appear to show that a deficiency of potass constitutes an important element in scorbutus. And, according to this pathological view, the efficacy of lemon-juice and the various anti-scorbutic vegetables, is not due to the presence of an acid, but to the salts of potass which they contain. This view is sustained by the usefulness of the salts of potass employed as remedies in this disease.

Finally, the phenomena pertaining to the blood and circulation in that remarkable disease, epidemic cholera, are measurably due to the loss of saline constituents held in solution by the serous transudation into the alimentary canal.

COMMENCEMENT OF MEDICAL LECTURES IN THE UNIVERSITY OF BUFFALO.—The first lecture of the season at the *Buffalo Medical College*, was given on Wednesday, Nov. 5th, by Professor James P. White, who chose for a topic, as introductory to his course, *The History of Midwifery*.

SYRUP OF COPAIBA.—Dr. Trideau has recently, in a memoir laid before the Academy of Medicine, spoken of the treatment of croup and diphtheritic angina by copaiba; and has referred to a preparation by which he was enabled to overcome the dislike of children to the medicine. M. Du May, *pharmacien* at Laval, has since published the formula for the syrup. It is made with balsam of copaiba, 167 grammes; calcined magnesia, 9 grammes; simple syrup, 320 grammes; and the yolks of four eggs. The yolks are triturated with the magnesia; the copaiba is then added and intimately mixed; and then the syrup. The preparation is said to be capable of being well preserved, to have no taste, and to agree well with the stomach. M. Du May suggests that, in order to obviate repugnance to the use of the medicine arising from the known ordinary appellation of copaiba, the preparation should be called syrup of Brazil balsam.—*Bull. Génér. de Thérap.*, 30 Août, 1860.)

\* Vide article entitled "Experimental Researches into a New Excretory Function of the Liver; consisting in the Removal of Cholesterine from the Blood, and its Discharge from the Body in the Form of Stercorine." By Austin Flint, Jr., M.D., etc., *American Journal of Medical Sciences*, October, 1862.

# Original Communications.

## BRONCHOTOMY,

WITH A STATEMENT OF FORTY-THREE CASES.

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*Continued from page 242.*

Now that the prejudice which formerly existed against this operation has in a great measure subsided, it is extensively employed in the treatment of diseases of the larynx and trachea.

The following are some of the conditions that may render the operation necessary:—1st. Ulceration of the larynx, especially the syphilitic; 2d. The presence of a foreign body in the air-passages; 3d. Wounds of the throat; 4th. Oedema glottidis; 5th. Pressure of aneurismal or other tumors in the trachea; 6th. Membranous croup.

### I. ULCERATION OF THE LARYNX, ESPECIALLY THE SYPHILITIC.

In the application of bronchotomy to this affection we have two distinct objects in view: the one to prevent sudden death from suffocation, and the other to promote the healing of the ulcers by removing the irritation caused by the constant current of air through this passage, and the frequent motion to which it is subject, as the chief organ of voice. Time and opportunity are also furnished for the application of mercury and other means for the treatment of this, one of the most formidable of the varieties of constitutional syphilis.

Carmichael, one of the earliest authorities for the application of tracheotomy as a remedial measure, says in his lectures on venereal disease: "In the great majority of cases nothing more than temporary alleviation was obtained from mercury or any other measure that I have seen tried, with the exception of tracheotomy," and adds, "I have practised this operation with great success."\*

The probability of a sudden and fatal termination of this disease cannot, within certain wide limits, be measured by the urgency of the symptoms. Mr. Barker, after giving the history of two of his hospital patients who died without warning, states: "I can come to no other conclusion than this: that the importance of performing tracheotomy early, and before rather than after very urgent symptoms have commenced, is not sufficiently kept in view. For in one case where the operation may be performed prematurely and unnecessarily, it is neglected in many where it offers a fair prospect of prolonging and saving life.†"

Miller also favors the operation as a remedial measure. He considers it expedient "to have recourse to tracheotomy and the temporary use of the tube in those cases of ulceration of the larynx which threaten to resist the ordinary remedial means." He thinks "if it be long delayed the probability of wearing the tube permanently is increased."‡

In Case 12 the operation was performed early, and with a very favorable result. The following is the history:—

John Preston, aged 25, was admitted into the New York Hospital December 1, 1856, with syphilitic disease of the larynx. Patient had chancre two years ago, which lasted about three weeks before healing; he has had no bubo; mouth was made tender by the use of mercury. About two months ago an ulcer broke out on the inner canthus of the left eye, which spread considerably, and was attended with a discharge from the ear. There was also an ulcer an inch or more in diameter occupying the posterior part of the hard and a portion of the soft palate, without perforating either. Dec. 20.—Patient is improving

under the use of mercurials and the iodide of potassium. The discharge from the ear is trifling. Dec. 30.—The ulcer near the eye is disposed to re-open, the fauces are red and ulcerated. Difficulty in respiration and hoarseness first noticed. The mercurial course discontinued for the present. Jan. 1, 1857.—There is much dyspnoea at night with orthopnoea; is taking tincture of cinchona and nitric acid. Jan. 8.—Fumigations of cinnabar afford decided relief to dyspnoea. Nothing abnormal is heard in the lungs, but he complains of some pain in the right side of chest. Jan. 12.—Respiration has become laborious, and is attended with a hoarse croaking noise; pulse rapid and feeble; skin cool. These symptoms increasing in severity, and there being no oedema glottidis, tracheotomy was determined upon, and at once performed, to the great relief of the patient. Jan. 24.—He has been steadily improving; the ulcers are healing, but he is troubled a good deal with a cough. Feb. 18.—Can breathe with the tube closed for half an hour. March 4.—Tube remains closed for an hour at a time. March 16.—Breathing through the natural passages easy, but is still troubled with his cough, which is occasionally attended with expectoration of blood. The syphilitic symptoms not improving, the previous treatment was discontinued, and the internal use of mercury again employed.

The signs of phthisis which were noticed previous to the operation became more fully developed, but as all throat affections had disappeared, he was discharged from the hospital June 1st.

CASE 43d.—In this case the operation was performed early, and before the larynx was extensively diseased.

William Quinn, aged thirty, was admitted into the New York Hospital, January 15, 1861, with syphilitic disease of the larynx. Patient had two chancres six years ago, but has suffered from no constitutional symptoms. He entered the hospital complaining of partial aphonia; states that about two months ago he noticed that his voice was growing weaker, but felt no pain or soreness of the larynx, nor difficulty in breathing. On applying to a physician in the city a probang was passed down his throat. After this his voice gradually lost its power, and became weak and husky—these symptoms have increased in severity until the present time. He has slight dyspnoea, appetite poor, pulse eighty, and feeble, face pale, and extremities cold. Nothing abnormal can be discovered in the throat. Under the use of iodide of potassium and tonics his appetite improved, and his strength increased, but his voice continued to grow weaker. Feb. 4.—Respiration is very difficult. Feb. 5.—Patient's condition is growing worse, and at times is subject to alarming paroxysms of dyspnoea. Feb. 6.—The dyspnoea becoming so alarming, Dr. Buck was called, and not finding any oedema of the glottis, tracheotomy was determined upon and performed. The operation was attended with considerable hæmorrhage, which, in a measure, was controlled by pressure with the finger. Feb. 8.—Dyspnoea much relieved, pulse 120, and feeble. Feb. 9.—Bronchitis, with pneumonia of left lung, noticed to-day. Feb. 10.—Patient complains of profuse sweating, pulse 120, and weak; is taking brandy and beef-tea. Feb. 11.—Patient seems better to-day, can breathe easily with the tube closed. Since the operation mosquito netting, wet with warm water, and frequently changed, has been placed over the tube, so as to simulate the natural moisture and temperature of the respired air.

In Case I. the operation was delayed until extensive ulceration had taken place.

Charles Burton, aged twenty-seven years, was admitted in the New York Hospital May 5, 1854, with his throat in the following condition. The uvula had been destroyed, and the free edges of the velum were adherent on either side posteriorly throughout their whole extent to the walls of the pharynx. The isthmus of the fauces was coerced perpendicularly on a plane corresponding to the anterior pillars of the palate and drawn towards the base of the tongue, thus reducing the passage into the pharynx

\* Carmichael's Clinical Lectures on Venereal Diseases, pages 141 and 142.

† Medico-Chirurgical Transactions. Vol. xxxviii, p. 281.

‡ Miller's Surgery, p. 272.

to a small aperture in the median line which rested on the base of the tongue. This aperture also afforded the only communication with the posterior nares, and was too small to admit the end of the finger, thereby precluding the possibility of exploring the condition of the epiglottis and orifice of the larynx.

The surface of the parts was pale, shining, and had the aspect of cicatrized tissues. Here and there a superficial, ulcerated spot was noticed. Deglutition was very difficult, and restricted almost entirely to fluids, and with these great care and deliberation were required to prevent strangulation and regurgitation taking place. Dyspnoea, which also existed, had the effect of aggravating the difficulty of deglutition. The voice, besides the nasal tone, had a peculiar laryngeal sound. The dyspnoea was increased by exercise, and also by any exciting moral emotions.

About three years ago, patient had primary venereal disease (and the only time as he asserts) in the form of chancre, bubo, and gonorrhoea. The winter before last, while on a voyage from Liverpool, his throat became sore, and on arriving at this port he entered the Seaman's Retreat on Staten Island, where he remained five months, his throat being extensively ulcerated, and his voice reduced to a whisper during that time. About the first of July last, the passage of his throat became very much contracted, and the dyspnoea very urgent. On applying to a physician in the city, an instrument was passed down his throat (which patient compares to a catheter, though of larger size). The introduction of it occupied an hour, and was followed by profuse bleeding for three hours. After this, both respiration and deglutition were considerably improved; his general health in other respects was good.

May 22.—Patient being very anxious for relief, especially from the dyspnoea, which has steadily increased, an attempt was made to enlarge the aperture at the root of the tongue by splitting up the soft palate in the median line, with a view of determining to what extent the obstruction at this point might influence the dyspnoea, and also in the hope of being able to pass the finger in and explore the condition of the epiglottis and glottis. This attempt produced such an alarming suffocative attack that it was abandoned, and tracheotomy resorted to, and a large-sized trachea tube, perforated on the convex side of the curve, was inserted and secured by a tape around the neck. The relief of dyspnoea was instantaneous and complete, and afforded the greatest satisfaction to the patient. Deglutition was also rendered much easier.

June 1.—The respiration continues perfectly easy through the tube. Deglutition has been only temporarily relieved by the operation, and is again becoming more difficult. Still hoping that the division of the velum might abate the stricture of the fauces, and facilitate swallowing, the operation was performed, after etherizing the patient, by slitting the velum in the median line with a long-handled curved bistoury. The base of the tongue extended so far backwards as to render it impossible to ascertain the condition of the epiglottis and orifice of the larynx or break up the adhesions of the stricture. The effects of the operation in other respects were unfavorable. The voice became extinct. The difficulty of deglutition was also increased instead of diminished.

June 28.—Deglutition continues so difficult that patient is entirely unable to swallow solid food, and can only pass liquids in small quantities at a time. At his own solicitation the patient was allowed to pass a silver catheter down through the stricture for the purpose of dilating it, and found after a few repetitions that he was able to swallow easier. On the eighth of July—six weeks after the operation—when he left the Hospital, the improvement in deglutition continued under the use of the catheter. The tube in the trachea could not be dispensed with.

On the twenty-sixth of November following, Burton returned to the hospital, still wearing the trachea-tube, and obliged to close the nostrils as well as the tube to speak

audibly. The soft palate had nearly reunited: the deficiency was at the posterior extremity, but was only slight. He had made a voyage in the capacity of cook on board of a vessel, and had earned full wages.

The obstruction to respiration in the above case was probably occasioned by the contraction in cicatrizing the ulcers of the larynx and epiglottis. Could not this result have been obviated by the early application of tracheotomy?

CASE 21.—Syphilitic disease of the throat; had existed for four and a half years.

John Doyle, aged thirty, was first seen by Dr. Loomis, March 5, 1856. Patient had chancre and bubo five years ago, which was followed in five months by secondary syphilis. One year after the first manifestation of the constitutional disease, he had sore throat, rheumatism, and a pustular eruption. These symptoms have gradually increased in severity, and he now has periostitis ulceration of the fauces, and tenderness over the larynx with complete aphonia.

During the past week he has suffered from paroxysms of dyspnoea. The one in which he is now laboring began about twelve days since, and is imminent. The extremities are cold, lips livid, pulse feeble, and respiration difficult. The symptoms increasing in severity, laryngotomy was determined upon, and performed by opening into the larynx through the crico-thyroid membrane, which gave speedy and great relief. Patient was afterwards treated constitutionally for syphilis with local applications of iodine and nitrate of silver to the larynx and fauces, until, as far as could be observed, all local lesions were relieved.

Patient was seen a year after the operation, when he seemed free from all disease, yet the closure of the tube occasions considerable dyspnoea, owing to which he will not consent to its permanent removal.

## II. THE PRESSURE OF FOREIGN BODIES IN THE AIR-PASSAGES.

In the removal of foreign bodies from the air-passages tracheotomy is the only measure upon which reliance can be placed, and should be performed as soon as satisfactory evidence is obtained of the nature and cause of the affection. By this means the danger of sudden suffocation, and also of ulceration of the larynx and trachea, is avoided. Mr. Ryland says: "No other remedial measure is of the slightest value," and that this will usually give relief when performed early, the chances of success diminishing in proportion to the lapse of time.\* Emetics and the inversion of the body, as recommended by some authors, are disapproved of by Dr. Gross, who says: "They seldom give relief," while they seriously endanger the patient's life by causing spasm of the muscles of the glottis.† Frequently the foreign substance will be forcibly thrown from the wound on the opening of the trachea; in others it must be removed by manipulation; while cases occasionally occur in which strong evidence exists of the entrance of a foreign body into the larynx, which cannot be detected by the most careful examination when the passage is laid open. The symptoms of obstruction in the trachea and in the oesophagus so closely resemble each other, that in all doubtful cases the latter should be examined with the finger and probang before attempting an operation for the relief of the patient.

CASE 5.—Illustrates many of the points just considered.

Caroline Hoogleman, a German, aged 32 years, was admitted into the New York Hospital on January 18, 1848. About two weeks previously, while holding some pins in her mouth, she was seized with a fit of coughing, in which one of them slipped into the larynx, where it has remained ever since. During breathing she thought she could feel it move slightly about. Its presence was attended with soreness of the throat and difficulty of swallowing, the latter of which, however, came on only two days before. The pain was constantly referred to one spot. A week

\* Ryland, on the Larynx and Trachea.

† Gross, on Foreign Bodies, p. 184-193.

before she began to have huskiness of the voice, although previously it had been clear. The day after her admission a probang was passed down the œsophagus, without, however, affording any relief or encountering any foreign body. Explorations with the finger and curved forceps met with no better success. Laryngotomy was then performed in the crico-thyroid space, the patient having been previously placed under the influence of chloroform. This agent caused a good deal of congestion of the head and neck, leading to considerable hæmorrhage and the necessity of tying several vessels. The opening was subsequently enlarged to a sufficient extent to admit the introduction of the little finger, but no foreign body could be detected, and all further interference was therefore abandoned; cold water dressings were applied until oozing had ceased, when the edges of the wound were approximated by four sutures and adhesive straps. The patient passed a comfortable night, and the next morning left the hospital for her residence in the country. Some time after information was received that the wound did well, and finally healed, that the voice had never regained its natural tone, that she was liable to attacks of laryngitis and bronchitis.

The question naturally arises, what became of the foreign body after its entrance into the larynx? Did it become imbedded in the larynx or trachea, and thus elude detection, or was it dislodged in a fit of coughing, and swallowed by the patient? The former would seem the more probable.

Case 25.—The operation was followed by the expulsion of the foreign body.

J. C., aged five years, was, on May 6, 1849, while eating pea-nuts, attacked with coughing, with great dyspnoea. Medical advice was called, and on examination being made, a piece of pea-nut shell could be felt lying in the rima-glottidis. Various efforts had been made to dislodge it by mechanical means and by emetics. Twelve hours after the accident patient was seen by Dr. Buel, in consultation with Drs. Bloodgood and Hedger; the dyspnoea was growing more alarming, pulse rapid, and countenance expressive of extreme distress. Tracheotomy was decided upon, and immediately practised, to the great relief of the patient. Very slight hæmorrhage occurred. After waiting some time a female catheter was passed through the incision and the chink of the glottis. This dislodged the body, which, instead of being thrown out as was hoped, passed down the trachea, which gave very great relief, but still patient continued to be troubled with cough and some dyspnoea. May 13.—During a fit of coughing the foreign body was thrown out, and found to be half of a pea-nut shell. The recovery was rapid and complete.

### III.—WOUNDS OF THE THROAT.

The object desired in the treatment of wounds of the throat is to obtain union by first intention, which requires that the parts should be brought together and allowed to remain at rest. If, as frequently happens, the calibre of this organ becomes diminished by inflammation, and thickening of its mucous lining, and respiration becomes obstructed, bronchotomy, or the introduction of the elastic tube through the rima-glottidis, is required.

Ryland considers the elastic tube inapplicable, and says, "There is no remedial measure upon which the smallest reliance can be placed, compared with the division of the trachea."<sup>\*</sup>

Desault recommends the elastic tube by the way of the nares.

Case 10—Illustrates the comparative value of the two modes of treatment.

William Groty, aged 39 years, was admitted into the New York Hospital June 30, 1858, with extensive wounds of the throat, chest, and abdomen, which were self-inflicted with an ordinary clasp-knife. His respiration was hurried and greatly embarrassed by the incised wound of the throat, which had completely separated the hyoid bone

from the thyroid cartilage. This allowed the latter to be drawn down towards the clavicle, thereby giving rise to impending suffocation, from the sucking into the larynx of the blood which was freely flowing from the wound, which extended from the anterior edge of one mastoid muscle to that of the other. There were, besides this wound, three stabs, two of which penetrated the upper part of the abdomen, while the third entered the left pleura and wounded the lung. Patient was very much prostrated.

A trachea tube was at once passed into the larynx, which gave immediate though partial relief to the dyspnoea; owing to the spasm which its pressure created, and the difficulty of retaining it in place during the convulsive rising and falling of the trachea, it was removed, and an opening made through the crico-thyroid space, and a tube introduced. This gave relief to all trouble in respiration. Brandy and beef-tea given per rectum.

Feb. 1.—Patient soon rallied from his extreme prostration, and for some time seemed to be doing well; after this, his pulse and respiration became moderately accelerated; the latter was much impeded by a free discharge through the tube of frothy mucus, tinged with blood, which gradually became more purulent. Feb. 2.—The left side over the chest abnormally resonant; belly relaxed and supple; was unable to swallow; thirst moderate. Patient remained in this condition until about twelve A.M. to-day, when he began to sink rapidly, and in an hour or two, without any increase of dyspnoea, he quietly died.

Necropsy.—The wound of the throat has been partially described above. The principal nerves and blood-vessels on either side were left uninjured. The epiglottis had been divided at its base. The trachea below the insertion of the tube was slightly inflamed. The upper two-thirds of the right lung were filled with frothy serum of a reddish color. Its lower third was more congested, and in some portions was partially hepatized. The left lung was collapsed; its anterior and lower portion especially, which overlapped the pericardium, was consolidated like the right, and covered with a thick coating of soft, pale membrane, very recently formed, while its cavity contained about four ounces of serum. (The last named lesions were doubtless caused by the stab.)

### IV.—ŒDEMA GLOTTIDIS.

In this affection the obstruction is mechanical, and frequently makes very rapid progress, which requires prompt and efficient means for its removal. Mr. Porter says, "that if effusion into the sub-mucous tissue has taken place, every moment suffered to elapse before an artificial opening is established, must be pregnant with danger;"<sup>\*</sup> as a wound, it adds little to the patient's danger.

Marshall Hall, in remarking on the treatment of this affection, in 1821, says, "If the suffocation was imminent, I should not hesitate to propose laryngotomy."<sup>†</sup> But he afterwards regretted that he had not proposed the scarification of the glottis, so as to evacuate the blisters. This latter mode of treatment is frequently impracticable, from the urgency of the case as well as from the swelling of the fauces. When seen early, and suffocation not imminent, Dr. Buck says that scarification of the glottis should supersede bronchotomy.

Case 3—Illustrates the condition requiring such operation, and the difficulties sometimes attending tracheotomy.

Peter McEvans, aged 24 years, was admitted into the New York Hospital March 3, 1848, complaining of sore throat, hoarseness, cough, and slight fever for four or five days. A blister had been applied to the throat, and ten grains of calomel given, followed by a black draught.

March 5.—Was first seen by Dr. Buck at 10 A.M., in consultation with Dr. Swett. He was suffering from the most intense dyspnoea, lying upon his right side, with his face near the edge of the bed, his eyes closed, and his countenance pale and of a leaden hue. His features were altered,

<sup>\*</sup> Ryland on the Larynx and Trachea, p. 243.

<sup>\*</sup> Obs. on the Surg. Path. of the Larynx and Trachea, p. 87.

<sup>†</sup> Med.-Chir. Trans. xii-18.

and of an almost death-like expression; the skin was bathed in perspiration. Every muscle of the trunk seemed to be brought into powerful action to perform the act of inspiration, which was protracted and sonorous, while that of expiration was short, easy, and unobstructed. The pulse was steady, full, and moderately frequent; respiration could still be heard posteriorly in the lower part of the chest, though feeble. This aggravated condition had existed about six hours; the patient had, however, been very delirious and unmanageable during the night, and had required restraint.

The evening previous Dr. Swett had ascertained by the touch the existence of a moderate degree of swelling of the epiglottis, attended with hoarseness, but with only slight dyspnoea. Patient had expectorated freely a yellow viscid matter. On inspection, the surface of the velum and fauces was found of a deep red color, clean, and free from swelling of the tonsils or other parts; the uvula was ulcerated off about its middle, leaving an even square surface, as if it had been excised. Externally, about the larynx, the neck was full and swollen, and the surface still suppurating from the blister. With the finger the epiglottis was distinctly felt to be thickened, swollen, and pulpy, more especially the left half of its margin. The glosso-epiglottic frænum and pouches remained natural. No time was lost in scarifying the edges of the glottis and epiglottis with Dr. Buck's curved knife, which was accomplished readily, from the parts being, in this case, unusually easy of access. The operation was repeated two or three times at short intervals, and was followed by a small quantity of blood in the sputa. Partial relief was experienced by the patient. After waiting half an hour it was judged most prudent, in view of the urgency of the dyspnoea and the imminent danger attending it, not to rely exclusively upon the scarification, but to give the patient the additional chance of tracheotomy, which was accordingly performed without delay. Great difficulty was encountered, from the depth of the trachea, augmented from the swelling of the superjacent parts, and from the resistance of the patient, as well as from the copious venous hæmorrhage. On incising perpendicularly the three superior rings of the trachea, the air rushed in with great force. After introducing a large sized curved silver tube, breathing was soon established through the artificial passage, and with less spasmodic cough and irritation than usual.

Great relief was instantly experienced. The patient, from being exceedingly turbulent and excited, became tranquil and submissive. The respiration grew calm, and required no effort, and the countenance resumed its natural expression. Patient slept quietly during the remainder of the day.

March 6.—Patient doing well, and, notwithstanding the tube is very much clogged with viscid mucus, he breathes easily. The swelling of the epiglottis has decidedly diminished. After removing the tube to cleanse it, the sides of the wound were pressed together to close the opening in the trachea, when it was found that respiration through the larynx could be performed much better than before the operation. Replaced the tube as before. March 7.—Progress favorable; the epiglottis is free from swelling, and of its natural size.

After cleaning the tube and replacing it, the patient was able to breathe with natural facility through the larynx, with the tube closed at its external orifice, showing conclusively that the swelling in the glottis had already disappeared. March 8.—Progress good; left out the trachea tube altogether. March 20.—Air no longer passes through the opening in the trachea. The wound has filled up with granulations. No auxiliary treatment was employed in this case. April 1.—Patient was discharged to-day, with the wound healed and his voice restored.

Case 6.—Illustrates a condition of the larynx produced by hot water and steam, analogous to the one above described. The patient soon after the accident complained of urgent dyspnoea, which was instantly relieved by scarifi-

cation of the uvula and epiglottis. The laryngeal obstruction soon returning with increased severity, laryngotomy was performed, and followed by desired relief. Without any increase of dyspnoea the patient died the following morning after the operation.

Philip Bevens, Surgeon to Mercer's Hospital, in a recent article in the Dublin Quarterly Journal of Medical Science, advocates the treatment of œdema glottidis, arising from scalds, solely with calomel and with leeches over the sternum. He says, he has seen but one case prove fatal, when the system was under the influence of mercury.

(To be Continued.)

#### REMARKS ON THE USE OF PERMANGANATE OF POTASSA IN THE TREATMENT OF HOSPITAL GANGRENE. WITH CASES.

By F. HINKLE, ACTING ASSISTANT-SURGEON, U.S.A.

In the month of April, 1863, my attention was called to the use of permanganate of potassa as a remedy to be tried in the treatment of hospital gangrene, by Prof. Samuel Jackson of Philadelphia. He stated to me that he had just received a letter from a French gentleman, saying that he thought that this chemical compound would be found a valuable remedy to be used in certain cases. Prof. Jackson kindly informed me where in the city I could obtain the article. The investigation and study of hospital gangrene had for some time occupied my mind, and on my return to the Campbell U.S.A. General Hospital, Washington, D.C., where I was stationed as an assistant, I determined, if the opportunity offered, to fully test the agent. A reference to the U.S. Dispensary (page 1447) only aided me by a statement that it had been used internally in diabetes and as a deodorizer in certain ulcers. I would further remark that, on consulting other authorities, I could find no mention made of the salt as a remedial agent, and therefore I believe I was the first to employ it generally in the treatment of hospital gangrene.

Before giving the result of my experience with the remedy, I must beg leave to differ with the generally received opinion that hospital gangrene is solely dependent on filth, crowding, and bad ventilation. No doubt they tend to aggravate the disease, but to my mind they are only exciting causes, while the predisposition and specific poison rest in the impoverished blood, rendered such by the irregularities in the life of a soldier. The proofs of this assertion can be readily noticed in hospitals where we find soldiers laboring under such diseases as camp fever, diarrhoea, scurvy, and various chronic complaints, wounds that from unavoidable neglect have not been properly dressed, or when dressed have not been regularly cleansed—such conditions invite the disease, which having once made its appearance, I admit it rapidly spreads. In the Campbell, the Armory Square and the Jervis U.S.A. General Hospitals, where I have witnessed gangrene in its worst form, every care was given to prevent contagion, and I am free to say that these institutions are models for cleanliness, ventilation, and all that pertains to the comfort of the patients; yet in each of these hospitals the disease has raged to a fearful extent. In the Jervis hospital, which is especially favorably located for the treatment of any disease or injury, and where the mortality has been remarkably small, the number of cases of gangrene during the past summer was about sixty. The site of the hospital is on elevated ground overlooking the city and bay of Baltimore. The buildings are isolated on all sides, and the capacious grounds are well shaded by fine large trees; they were daily and thoroughly policed, and although the drainage was on the surface, still it was perfect, there being no stagnant water at any time present.

The buildings were daily fumigated, and not being ceiled, they were at least once a week whitewashed inside and out. The surgeon in charge (Asst.-Surgeon D. C. Peters,

U.S.A.) not satisfied with the means at his command, when the disease was announced immediately caused a large tent ward to be erected, which was elevated from the ground on a fresh bed of dry clean sand, and had a new board floor. This ward was so located that it was free to the fresh air on all sides, and was kept in a perfect state of cleanliness. The patients were taken to this ward as fast as the disease showed itself in their wounds, and were returned as quickly as it was arrested. No bandages or dressings were employed the second time, and each patient used his own towels, sponges, &c.

It is also remarkable that no other contagious disease, such as erysipelas, has prevailed to any extent in this hospital, which I believe is due to the thorough hygienic rules practised in the institution. Notwithstanding these precautions, hospital gangrene prevailed insidiously, yielding only to the treatment employed, and in but one instance did it fail.

I first introduced the permanganate of potassa in the Campbell Hospital, Washington, D.C., in the month of May, 1863, in the treatment of gangrene, in cases received there from the second battle of Fredericksburg, and my associates soon noticed its happy effects. Its use afterwards became general in the hospital. The article could not be procured in Washington, and I obtained it from H. C. Blair, pharmacist, of Philadelphia, until its reputation could be fully established. When its usefulness was reported to the Surgeon-General, on requisition, it was supplied by the Government. In the treatment of over fifty cases in the Campbell Hospital, the *modus operandi* of employing the remedy was discovered, and the following is my report:—

From one to four grains of solution was given in twenty-four hours, and it acted as a tonic astringent, oxygenator, and vivifier of the blood. As a constitutional remedy it was only given in cases where the system was greatly depressed. Locally the concentrated solution was applied as an escharotic, with a hair pencil, over the surface of the wound, even extending its application over the cuticle four inches beyond the seat of the wound. After the wound was thoroughly pencilled, lint saturated with the dilute solution was applied, and the dressing repeated every three or four hours. The dilute solution is prepared as follows:—From two to four drachms of the concentrated solution (as now furnished by the Government) is added to a pint of water, the strength varying in accordance with the severity of the case. Previous to the application of the solution the wound should be thoroughly cleansed with Castile soap and water. In cases where the wound is deep or difficult of access, the concentrated solution, as an escharotic, was injected with a gutta serena syringe, two or three times during the day, and the dilute solution at regular intervals, when lint could not be applied. By this local application the most aggravated cases of gangrene, resulting from traumatic wounds, were arrested; the treatment was then modified to suit the state of the wound, until healthy granulations ensued. After the gangrenous slough had entirely disappeared, which occurred in about five days from the time the gangrene had been arrested, simple dressings were applied with the dilute solution, until the wound was entirely healed. It also proved valuable as a remedial agent in bed sores, where there was extensive suppurative along the spine and hips beneath the integuments, causing a number of openings in the cuticle for the discharge of pus. The sores and the parts beneath the integument were thoroughly cleansed with Castile soap, and water was then injected two or three times a day. Subsequently the affected parts were thoroughly injected with a dilute solution (3 iv to Oj) of the permanganate of potassa. Occasionally in aggravated cases it was expedient to inject the concentrated solution once a day, for several days. I could here add, that it was found very efficient in the treatment of stumps after amputation, not only acting as a simple dressing, but also as a tonic astringent, anti-hæmorrhagic, and vivifier of the feeble circulation in the

flaps, thereby promoting sloughing, and maintaining a healthy tone in the parts.

In these cases of hæmorrhage the concentrated solution was applied with a hair pencil, and then lint dressings were used, soaked in the same; a compress and roller applied for twenty-four hours, and this invariably sufficed to control the hæmorrhage. On the second day the wound was dressed with a dilute solution as before. It was now used with marked success in the dressing of all gunshot wounds, and in many cases do I feel assured that gangrene would have attacked the wounded parts had it not been employed.

Its deodorizing qualities, I am convinced, are unsurpassed by any other agent. It destroys all the offensive odors emanating from the gangrenous wounds, and stays the smell in all other wounds—a sanitary point of great importance in a surgical ward. In a bad case of gangrene, where used, it requires one to approach quite close to the patient to detect the faint odor remaining. As a disinfectant it can be used with valuable results in apartments poorly ventilated, by placing it in saucers under the beds. It is used by our nurses after dressing offensive wounds, to cleanse their hands. It has also been tried as a disinfectant after making post-mortem examinations, with the same result.

In meditating on its physiological action the following questions occurred to me; if it arrests the process of supuration, and disorganization of all the living tissues, why will it not suspend the process of decomposition in the dead? Acting on this theory, I injected the femoral artery of a deceased subject with a concentrated solution of this salt, and left the body unburied for seven days; at the expiration of that period, I with several other medical officers inspected the body and found it in a perfect state of preservation. In conclusion, I will merely add that I consider the permanganate of potassa a boon to humanity in the treatment of hospital gangrene, and that it compares favorably with the valuable properties of chloroform and ether. I herewith subjoin a few cases; as my time is not my own, I have not the opportunity to record each case

(To be Continued.)

## Progress of Medical Science.

PREPARED BY E. H. JAMES, M.D.

ON THE MODE OF ACTION OF BELLADONNA.

DR. THOMAS HAYDEN reports in the last number of the *Dublin Quarterly Journal of Medical Science*, a case of poisoning with atropa belladonna. The patient was a healthy boy aged seven years; the symptoms were those usually presented in this kind of poisoning; the treatment was emetic, which verified the diagnosis, cathartic, cold applications to the head, warm to the feet, opium, strong coffee, and ammonia applied to the nostrils. Recovery took place in about four days. The early stage of this case was characterized by symptoms of nervous and vascular excitement, closely simulating those of alcoholic intoxication; the next was a stage of profound coma, distinguished from that due to excessive use of alcohol by the extreme dilation of the pupil, and the congested and parched state of the mouth and pharynx, followed by a second stage of excitement, instead of the usual depression of alcoholic poisoning. Orfila has shown by post-mortem examinations of persons dying from the effects of belladonna, that the cerebro-spinal centre and its investing membranes are in a state of extreme vascular congestion, which would alone account for the dilatation of the pupil without any specific action of belladonna as a mydriatic, though when applied to the eye it will act as an excito-motor stimulant, without giving rise to congestion of the ocular vessels. Its action is "upon the sympathetic supplied to the radiating muscular fibres of the iris, through the branches of the fifth pair of nerves."



From experiments upon the web of the frog's foot, Mr. Wharton Jones arrived at the conviction "that belladonna acts as a direct stimulant of the vaso-motor filaments of the sympathetic, thereby inducing contraction of blood-vessels, and by implication in a similar manner on the *dilatator pupillæ* through the fibres of the sympathetic supplied to it." Dr. Hayden's experiments under similar conditions were attended with the same results; but when he took the precaution of first completely dividing the integument of the limb higher up by a circular incision, so as to cut off the sentient nerve-supply of the foot, the result has been totally different, there being no contraction of the blood-vessel whatever. Hence he concludes: "It is clear, therefore, that belladonna acts, not as a direct, but as a reflex stimulant of non-striated muscle; and that, in the case of the iris, the media of conduction centripetally are the sentient filaments of the fifth pair distributed to the conjunctiva and surrounding integument." This idea does not support the beautiful theory proposed by Dr. Charles Lee, of the antagonistic effects of opium and belladonna, and their being regarded as reciprocal antidotes. "Had Dr. Lee adverted to the fact that belladonna dilates the pupil by inducing a state of active contraction of its dilator muscle through the sympathetic, and that opium causes its contraction by stimulating its constrictor through the third or *motor oculi* nerve, he would not have concluded that a myotic must of necessity be a corrective of a mydriatic, and proposed opium as an antidote for belladonna."

The same journal contains a short article by Dr. John F. M'Veagh containing some account of

#### THE DATURA TATULA AND ITS USE IN ASTHMA.

The writer's attention was first called to this article in the year 1850, when he was called to prescribe for the most severe attack of asthma he had ever witnessed. After subduing the most urgent symptoms by the ordinary treatment, the sufferer, being able to speak, proposed the above remedy, which he always kept at hand, and after smoking it for about ten minutes was wonderfully relieved. The part used was the bruised seed and dried herb equally mixed; and although in this case it could only afford temporary relief—there being cirrhosis of one lung, and valvular disease—it immediately suggested its employment as a remedy in uncomplicated asthma and chronic bronchitis. A few cases are reported in which its trial has been attended with success sufficient to encourage its further use, with the hope of finding it a valuable addition to our *Materia Medica*. Its action resembles in some degree that of stramonium, but more antispasmodic and less narcotic; it rarely causes the headache, or leaves any unpleasant dryness of the fauces or sense of constriction in the pharynx, as the stramonium constantly does. Dr. M'Veagh has directed, in addition to the ingredients for smoking, an extract and a tincture. The extract is made with coarsely powdered tatula, with cold water, exhausted by percolation, and the liquor evaporated to usual consistence by simple heat. The dose is from half a grain to one grain and a half. It may be taken in the form of a pill at bedtime as a prophylactic, also for the relief of chronic bronchitis. The tincture is made by digesting for seven days, one part of powdered herb in eight parts of proof spirits. Dose—20 to 60 minims may be given, added to an ordinary expectorant mixture. The tincture, diluted with distilled water, remains transparent. The solution precipitates greyish-yellow with tincture of galls and ferrocyanide of potassium, becomes of an inky color with solution of perchloride of iron, and precipitates whitish with nitrate of silver. It does not precipitate with perchloride of mercury or nitrate of lead. In an analysis of the plant, made by Dr. Aldridge, it was found to contain an alkaloid, tannin, and, probably, some chloride.

## American Medical Times.

SATURDAY, NOVEMBER 28, 1863.

### OUTSIDE INTERFERENCE IN THE MANAGEMENT OF HOSPITALS.

ONE of the principal obstacles to the successful management of our military hospitals has been "outside interference." In the early period of the war, when the sympathies of the people were enlisted to an extraordinary degree, the hospitals were under the most constant supervision by individuals, and by delegations from distant associations. Every patient represented a little neighborhood, with all its domestic influences, which followed him with tender sympathy, and sought to give him succor in his hour of need. Their charities were spontaneous and generous, and they could brook no restraint in their distribution and application. The messenger visited the hospital with the freedom with which he would visit the district school, and freely dispensed his gifts. He neither asked nor cared to know how his contributions to the comfort of the sick affected their individual diseases. The first efforts of surgeons to control the distribution of the charities of the people among the sick were stoutly resisted. Such interference was considered inhuman. At once the hospitals were filled with informers. Every disciplinary act was construed into an arbitrary and unreasonable requirement. Patients, influenced by the sympathy of their friends, became insubordinate, and all discipline became relaxed. The newspapers were filled with the most exaggerated reports of cruelties in hospitals, and surgeons-in-charge were subjected to great and unnecessary annoyances. In progress of time the ardor of the people abated, they became accustomed to the discipline of the hospitals, and their contributions were added to the general hospital store. During the past year there has been far less outside interference in the management of the military hospitals than in the first year, and we hope it will never be renewed.

But while the hospitals are, in a measure, free from the interference of the people, officious persons still obtain the sanction of Government to institute hospital inspection by laymen, for the assumed purpose of correcting existing abuses. Such a roving commission has been visiting the hospitals in the Eastern Department, having ample power to do harm, but without the requisite knowledge to do any good. A similar commission has just been appointed to visit the hospitals and military prisons in the Department of Washington, with full authority to correct every abuse which they may discover in those institutions. Three of the four inspectors are the military agents of their respective states, and have been identified with the interests of the soldier. In order that the Inspectors may have every facility for the prosecution of the inquiries under their appointment, the Quartermaster's Department are directed in the order to furnish them such transportation as may be necessary, and the officers of the prisons and hospitals are directed to treat the Inspectors with all due courtesy and respect.

The instructions of the Inspectors, as issued by the Department, are as follows:—They are required to inspect

the hospitals as to the general order and cleanliness in all their parts and premises; to observe as to the efficiency, faithfulness, and humanity of the surgeon and attendants; to inspect the management of the kitchen, the condition of stores and supplies, both as to food and clothing; the nature of the cooking; the quantity and quality of the rations; and in general everything pertaining to the sanitary condition of the patient; to receive complaints of patients as to grievances, and give them a reasonable hearing and investigation; yet in no way to interfere with the military discipline of the hospital. If any just ground for complaint be found, or any reform be needed, they are to apply for the remedy to the surgeon in charge. If that does not accomplish the end, they are to report the fact directly to the Secretary of War, and generally they are to report to him whenever in their judgment anything relating to a hospital or its officers cannot be remedied without his attention; every General Hospital in the Department is to be visited once in thirty days, and as much oftener as in the judgment of the Board it may be expedient. These visits will be made with or without previous notice to the surgeon in charge, as the Board may determine. Generally, in the spirit of the above instructions, the Inspectors are to regard the good condition of the hospitals as committed to their keeping, and are to have an eye on everything connected with them that concerns the welfare of the patients, and the needs of the military service. It is desirable, however, that they should so act, that as far as it is possible, consistently with their duties, they shall not be antagonistic to, but cooperate with the surgeons in charge to the best good of the hospital.

We have in these instructions a well studied programme of official interference in the management of military hospitals, which will result in nothing but unmitigated evil. Three military state agents with such ample powers will be able on their first tour of inspection to destroy utterly all hospital discipline in that Department. If they do not accomplish that object, it will be because they fail to carry out their instructions; for it may be taken as an established fact that no commission of laymen can institute these inquiries, and act wisely upon the information elicited. These inquiries are of a special character, and require special knowledge. They require for their proper application not only that an inspector should have a medical education, but that he should have had long experience in the management of hospitals. They involve also some of the most important questions in hygiene, and no man ought to be allowed to assume duties of such importance, who is not profoundly and practically versed in sanitary science. How preposterous then to commit to the keeping of mere military state agents questions of such magnitude, and so vitally affecting the well-being of our hospitals!

But why should Government appoint such commissions? The whole machinery of sanitary inspection is provided in the corps of sanitary inspectors, and admirably meets the wants of the service. Officers of its own appointment, selected for special qualification, visit the hospitals monthly, and examine minutely into their condition and management, and report regularly to the chief of the proper bureau. The Medical Inspectors are presumed to be educated for this special service, and have thus far done their duty well. The hospitals have been placed under a most efficient management, and present to-day the most perfect organization of the kind ever known. We regret to see

such outside commissions formed and clothed with such unlimited power. They may serve the purposes of political partisanship, but they cannot advance the interests of the sick soldiers.

### THE WEEK.

THE Physicians of Massachusetts are again moving in the matter of obtaining from Congress an ambulance corps for the armies of the United States. This is a reform in our military system of vast importance, and no time or effort ought to be spared to secure during the coming session the requisite legislation. Every physician can do something towards furthering the good cause by circulating the following petition, and forwarding it to some Senator or Representative in Congress:—

#### "FOR AN AMBULANCE AND HOSPITAL SYSTEM IN THE ARMIES OF THE REPUBLIC.

To the Honorable Senate and House of Representatives, in Congress assembled:

The undersigned ——— of ——— in the State of ——— respectfully request your honorable body to pass a law providing for a uniform Ambulance and Hospital System for the armies of the United States.

NAME.

RESIDENCE."

IRIDECTOMY is denounced by PROF. SYME of Edinburgh, who trusts that it will not only disappear from surgical practice but from surgical language. PROF. BOWMAN comes to the rescue and declares that SYME does not understand the nature of the operation. The discussion which has been begun will be of great interest, and we give in the following extract the principal points made by BOWMAN:—

"His whole misconception lies in a single word, but an important one, *glaucoma*. By *glaucoma* Mr. Syme means the *last, hopeless, absolute stage, when all perception of light is lost and the tissues of the organ are spoiled*. This is probably what most medical men reading these lines would also imply by the term. I never heard of any proposal to perform iridectomy in such cases *under an expectation of restoring sight*. In Mr. Syme's view, therefore, of the worthlessness of iridectomy for the cure of glaucoma, all surgeons may agree. By *glaucoma*, however, the modern school of practitioners understands something *not different, but much more comprehensive*. We include under this term, what as men of science and as practical men we are bound to embrace; viz. *the whole course and the several varieties of disease, leading to that last hopeless stage of extinguished sight and disorganized tissues*. We include these stages, more or less rapid, complicated more or less with inflammation, or with other varieties of ocular disease, and we include also Mr. Syme's '*glaucoma*,' the hopeless '*absolute glaucoma*' of Von Graefe, the '*glaucoma*' of our forefathers. Mr. Syme seems to ignore the idea that glaucomatous diseases are a *class comprising various types, all characterized by augmented tension of the eyeball, under which the retina is compressed and destroyed*; that to lessen this tension is to allow the nerve to retain, often to recover, some of its decayed functions; and that the *most positive proofs are daily occurring, that iridectomy has this effect of relieving tension*."

THE necessity of an asylum for inebriates is apparent from the great number of applications which have been made to the Asylum at Binghampton. The capacity of that Institution is very great, and yet it will accommodate but a tithe of the applicants. Other similar asylums should be established in different parts of the country for the relief of those unfortunates. We are glad to notice that a Retreat

for Intemperate Women is about to be opened in Boston. In the announcement of the project it is stated:—

"The necessity of making some special provision for the victims of intemperance, partly for the benefit of the individual and partly for that of the community, is beginning to attract general attention, and the subject in its various bearings has been brought before the State Board of Commissioners on Insanity, as among the matters deserving their serious consideration. Aside from the question of establishing a public asylum for inebriates, the advantages of which would be more naturally confined to the middle and lower classes, it appears that there is as yet in New England no place of refuge for intemperate women of good social position except the public and private lunatic asylums, which are unfitted, in the almost unanimous opinion of their superintendents, for the reception of such cases; at many asylums, indeed, admittance being refused to them, alike in justice to the other patients and to the inebriates themselves."

## Correspondence.

### PROFESSOR GROSS'S REPLY TO MR. BARWELL'S ACCUSATION.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—In your issue of the 7th instant you state (page 224) that Mr. Barwell, of London, in a lecture on hip-joint disease, makes the following accusation against Prof. Gross:—"This plate is borrowed from my work on joint diseases. A similar word will hardly characterize its use by Dr. Gross, of Philadelphia, who in the recent edition, second edition of his 'System of Surgery,' has appropriated this and six other of my illustrations, without acknowledgment."

To show what great injustice Mr. Barwell has done me in the above statement, permit me to send you the following extract from the *preface* of my work:—"Of the engravings which adorn the volumes, nearly five hundred are original, the remainder having been borrowed from different writers, as Liston, Cooper, Ferguson, Marcet, Bennett, Miller, Curling, Tamplin, Lawrence, W. Jones, Dalrymple, Pirrie, Erichsen, Druiitt, Ashton, Toynbee, *Barwell*, and Müller."

If this is not an *acknowledgment*, will Mr. Barwell be so kind as to inform me what constitutes one? Of all places in an author's book, the preface is the one for such a recognition; one where every reader would be most likely to see it. How it escaped Mr. Barwell's eye it is for him to state. My only regret is, that he should have placed me, either ignorantly or designedly, in a false position before my professional brethren in Europe and America.

Truly yours,

S. D. GROSS.

PHILADELPHIA, Nov. 9th, 1868.

### EXAMINATION OF CONSCRIPTS.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—Are you not too exacting in your requirements for inspection of drafted men? You should bear in mind that a *draft* brings to the surgeon an entirely different class from *volunteers*. It enters indiscriminately every rank in society. Carry out the tenor of your remarks upon medical inspection, and by one sweep nearly every person in liberal circumstances, enjoying what are termed the luxuries of life—most of those acting as clerks, or pursuing light in-door occupations, would be erased from the list, and the force of the draft would fall wholly upon the day laborer and sturdy mechanic, because their physique is well developed. I am glad to see by the papers to-day, that the number of causes

for exemption is *materially* lessened rather than increased. Under the present instructions our armies will never be filled, for unless the examining surgeon possesses moral courage and stamina there are loopholes through which the large majority escape. I grant the inefficiency of the earlier examinations of the army, yet I know that *hundreds* and *thousands* were discharged the service who never should have been, simply because somewhat ill; they gave the medical officer too much to do. At that time discharges were given almost wholly on *mere* surgeon's certificate endorsed by the commanding officer. This is now wholly changed, and you hear of comparatively few discharges—not that the examinations are so much more strict, but rather from the difficulty in obtaining a discharge.

I am satisfied, very much of the examination under the present draft has been a farce. I examine for this Congressional district, and have thus far held a much larger percentage than in most of the districts. Yet no case has passed without a distinct and definite impression of respiration and the sounds of the heart, as well as all the points in the physique requiring examination. Had I listened to the certificates of physicians hardly half would be fit for duty, simply because in their *present* condition fatigue and exposure would incapacitate them. Yet all these people readily furnish substitutes, and ought not they then to go to the field? The standard for the regular army would give us but the shadow of an army if carried to all our arms-bearing population.

I write this, not with a view of lowering the standard, but to show that it is a question which should be looked at in its political and social as well as mere physical relations.

Truly yours,

V. O. S.

### THE SANITARY COMMISSION AND THE ARMY.

THE following extract from the Sanitary Commission Bulletin gives some idea of the nature of the work which the Commission performs:—"The reports from Chattanooga, which we publish in this number of the BULLETIN, throw so much light both on the value of the work which the Commission is doing and of the difficulties with which it has to contend, that we ask for a careful perusal of them, as the best mode of appealing for public sympathy and support. There could not be a better illustration of our relations with the army than is afforded by the state of things which existed there after the battle of Chickamauga. The occupation of Lookout Mountain by the enemy left our army dependent for all its supplies on a common and very bad wagon-road, nearly eighty miles long, which incessant use and heavy rains soon rendered all but impassable for wheels. This at once placed the whole force on short rations, and of course condemned numbers of sick and wounded to death. It cannot be too clearly remembered that when a crisis of this sort occurs in military operations, the first duty of a general is not to take care of those of his men who are disabled, but of those who are fit for duty. His business is to bring the campaign to a successful issue at all costs, and if he can do so and at the same time have proper attention paid to those who have been stricken down by battle or disease, humanity requires that he should do it. But if attention to the sick and wounded is at all likely to interfere with the proper conduct of the military operation, the saddest, sternest, but most imperative rule of war requires that his whole resources in transportation, and in everything else, should be devoted rather to keeping the healthy in health than to restoring the non-effectives. Ammunition, and bread for those who can use it, are the prime requisites of an army under all circumstances; and when an army gets into difficulties like those of our army at Chattanooga, they only become tenfold more requisite than ever. At a crisis of this sort, the medical department finds itself too often paralysed for want of stores and transportation. The whole energies of the military authorities are devoted to keeping the ranks full, and in forwarding reinforcements and munitions; so that it may be said that

the surgeon finds that as his wants increase the means of supplying them diminish.

"All these difficulties have been aggravated in the West by the nature of the country in which the operations are carried on, and by the immense distances at which the armies frequently find themselves from their base—distances which have had no parallel in European warfare, or only in the campaign of 1812 in Russia. Instances have occurred of troops having been dependent for all their supplies upon a line of three hundred miles of wagon-road. And these long lines, it must be remembered, generally lie through regions desolated by two years of war and incessantly harried by guerillas, in which subsistence, forage, and often even the shelter of a roof, are wanting. That, under such circumstances, the medical department of the army should frequently find itself unable to meet the demands upon it, is nothing wonderful; the wonder would be if it did not. When the fierce shocks and sharp blows of war come, and the fate of the whole army, or the fate of the cause itself is at stake, the hospital is naturally and inevitably sacrificed to the field.

"It is the business and the aim of the Sanitary Commission to gather together from every quarter the money and the stores contributed by those who, from their position, can play no part in the war beyond seeking to alleviate its misery, who have nothing to do with military exigencies, and can therefore pay undivided heed to those of humanity; to keep these stores and money in its hands and follow the army with them in its march, husband them until a victory, or defeat, or retreat has flung a load of suffering on the regular departments which they are unable to cope with, and then to step in and as far as possible fill up all deficiencies. This seems a simple matter, but it is not by any means. After all the work of collecting stores from every corner of the Union has been accomplished, even after they have been hurried down to what seems to be the very edge of the battle-field, comes the hardest task of all—that of getting them conveyed to the exact spot where they are needed, to the very hospital where the sick are struggling for life on hard-tack and bad water, or to the very field on which the wounded lie starving and untended in their torn and bloody clothes. The difficulties of transportation, even for the medical department in our army, are immense; and they are of course still greater for the Commission. There ought unquestionably to be separate transportation provided for the former. It ought not to be dependent on the quartermaster for its wagons, to have its sole means of bringing up its stores liable to curtailment or total stoppage every time there is any unusual demand for wagons and mules on the part of other branches of the service. But then, as we have already remarked, it is more than doubtful whether it would be possible to organize means of transport for it which would under no circumstances be exposed to the pressure of that necessity which is, after all, the supreme law of an army. What general would agree under all circumstances to keep his hands off wagons which might save him from a disastrous retreat, even if their seizure and conversion to other uses involved the death of thousands of wounded men? The Sanitary Commission is also constantly forced in the West to rely on the quartermaster for its means of sending forward its stores, and exposed to precisely the same risks and delays as everybody else. Let the necessities of the wounded be ever so great, its means of supplying their wants ever so abundant, it has to take its chance of reaching them in precisely the same way as the regular medical directors. The accident which happened to the seventeen wagons which were captured while under Mr. Redding's charge, furnishes an excellent illustration of the obstacles which have to be overcome in the West. Its help was probably never more sorely needed than at the moment that this supply was going forward, and yet one swoop of the rebel cavalry converted to the use of drunken troopers stores that would probably have saved the lives of hundreds and hastened the recovery of thousands.

"The robbery of our stores by the teamsters is one more proof of the hundreds we have had in the course of the war, of the imprudence, to use no stronger term, of employing civilians to take charge of the army wagons. The teamsters are simply hired men, and are not subject to military discipline. The wagon-master who accompanies the train has no authority over them except that of an employer over his servants—and the value of this, in time of war in the West, may be readily imagined. They belong, however, generally to a drunken and reckless class, and burden themselves with very little responsibility about the property of the Government committed to their charge. When one remembers that any one of these men has it in his power, by upsetting his wagon on the road, to delay the advance of a train, it may be a mile or two in length, for half a day, and thus perhaps endanger the safety of the whole army—and instances of this have actually occurred—one cannot help regretting deeply that some effort has not been made to organize a military force for the transport service. In no European army is the baggage committed to the custody of civilians. Every one of them has a corps enlisted for this duty, and officered by picked men. The Military Train in France, and the Land Transport Corps in England, are considered amongst the most arduous and responsible branches of the service. It will be observed that the worst that could befall the scoundrels who gorged themselves on the road to Chattanooga upon the stores, for want of which the sick and wounded were perishing, was dismissal from their employment. But it will be readily imagined that, to men who could be guilty of such an act, this was no very severe punishment.

"The thing which our agents in the West most urgently demand is vegetables; this is the great want in all the hospitals, and the want of them is a serious bar to recovery in certain kinds of disease. We beg the attention of our readers to the remarks in our report on this subject. Vegetables are of course amongst the things that are not procurable at the seat of war, and they have to come from the Northern States, mainly from the vicinity of the large towns. Donations of them in sufficient quantities are certainly not to be expected from the growers, and they are therefore, in the dried form, amongst the supplies for which money is absolutely necessary. Mr. Bloor's letter to Miss Collins, which will be found in another column, indicates very clearly what our wants are likely to be during the coming winter. It must not be forgotten, however, by those who read it, that let us have ever so large quantities of the articles for which he calls, the distribution of them still remains to be done. They have to be sent in the track of the army over hundreds of miles of wasted country, gathered together at depots all across the continent, and which have to be carried by some means or other to those who most need them; this is the hardest part of our task, and for it money is absolutely necessary; and the larger the donations of supplies the more money we need."

## Army Medical Intelligence.

(CIRCULAR NO. 24.)

SURGEON-GENERAL'S OFFICE,  
WASHINGTON, D.C., NOV. 5, 1863.

To obviate the frequent discrepancy and contradictions occurring in "Certificates of Disability for Discharge," and those of Examining Surgeons for the Pension Bureau, hereafter Certificates of Disability will state all the causes of disability, where more than one exists, and the Medical Certificate will, in every instance, be made out in the handwriting of the Surgeon signing it.

By order of the Act. Surgeon-General.

C. H. CRANE,  
Surgeon, U.S.A.

## ORDERS, CHANGES, &amp;c.

The following named officers are hereby discharged the service of the United States on account of physical disability, with condition that they shall receive no final payments until they have satisfied the Pay Department that they are not indebted to the Government:—

Surgeon Calvin G. Page, 29th Mass. Vols.

Assistant Surgeon J. B. Galer, 81st Wisconsin Vols.

The resignation of Assistant Surgeon E. T. Whittingham has been accepted by the President, to take effect Nov. 12, 1863.

So much of Special Orders No. 10, from Headquarters, 1st Independent Battalion Ohio Volunteer Cavalry, dated Fort Laramie, Feb. 2, 1863, as relieved from duty Surgeon William B. Reznor, 6th Ohio Cavalry, at Sweet Water Bridge, and directed him to report without delay to the Colonel of his regiment, serving in the 11th Corps, Army of the Potomac, in pursuance of orders from Headquarters, is approved.

Leave of absence for fifteen days has been granted to Surgeon L. H. Holden, U.S.A., on Surgeon's certificate of disability.

Assistant Surgeon Cyrus Bacon, U.S.A., has been assigned to duty in the Office of the Medical Director at Baltimore, Md.

Surgeon William Dickinson, U.S.V., having closed the Good Samaritan Eye and Ear Infirmary at St. Louis, Mo., of which he was in charge, has, by order of the Assistant Surgeon General, reported at Kolia, Mo., to relieve Surgeon H. Culbertson, U.S.V., in charge of General Hospitals and as Medical Director, District of Kolia.

In addition to his duties with the 23d Army Corps, Surgeon R. M. B. Jackson, U.S.V., has been assigned to duty as Medical Director of East Tennessee, at Knoxville, Tenn.

Assistant Surgeon J. D. Johnson, U.S.V., has arrived at Chattanooga, Tenn., and been assigned to General Hospital No. 3 in that City.

Leave of absence for fifteen days, on Surgeon's certificate of disability, has been granted to Surgeon C. C. Cox, U.S.V., Medical Purveyor at Baltimore, Md.

Surgeon J. E. Quidor, U.S.V., has been relieved from duty at the Marine Hospital, Vicksburg, Miss., and assigned as Medical Director, North-East Louisiana, Goodrich Landing, La.

Surgeon D. G. Brinton, U.S.V., has returned from sick leave, and resumed his duties as Surgeon in Chief, 2d Division, 11th Army Corps, Army of the Cumberland.

Surgeon Charles McMillan, U.S.V., has returned from leave, and resumed his duties as Medical Director, 15th Army Corps.

Surgeon M. K. Derby, U.S.V., has returned from leave, and been assigned to duty as Surgeon in Chief, 6th Division, 16th Corps, Columbus, Ky.

Surgeon J. W. Lawton, U.S.V., has been transferred from General Hospital No. 19, to charge of General Hospital No. 12, Nashville, Tenn.

Surgeon A. H. Thurston, U.S.V., has returned from leave, and resumed his duties as Assistant Medical Director, Department of the Cumberland, relieving Surgeon W. Clendenin, U.S.V., who resumes his duties as Medical Inspector at Nashville, Tenn.

The Post Hospital at La Grange, Tenn., was closed on the 26th ult.

Surgeon William Varian, U.S.V., has been assigned to duty in charge of the General Field Hospital at Bridgeport, Ala.

Surgeon Francis Greene, U.S.V., has returned from leave of absence, and been assigned to duty at General Hospital No. 6, Beaufort, S.C., relieving Surgeon A. C. Benedict, U.S.V., who has been assigned to General Hospital No. 2, same place.

Leave of absence has been granted to Surgeon J. M. McNulty, U.S.V., Medical Inspector, Department of New Mexico, with authority to go to Fort Leavenworth, Kansas, for his family.

Assistant Surgeon H. T. Legler, U.S.V., has been assigned to duty in the General Field Hospital, Bridgeport, Ala.

Surgeon S. W. Gross, U.S.V., to duty as Chief Medical Officer, Morris Island, S.C.

Surgeon E. D. Kitloe, U.S.V., to duty on the Staff of Major General Grant, Headquarters, Army of the Mississippi, in the Field, at Chattanooga, Tenn.

Surgeon J. G. F. Holston, U.S.V., has been ordered to report for duty to Surgeon E. J. D. Irwin, U.S.A., Superintendent of Hospitals, Memphis, Tenn.

Surgeon Howard Culbertson, U.S.V., has been ordered to proceed to Madison, Wisconsin, and relieve Assistant Surgeon F. L. Town, U.S.A., in charge of the Harvey General Hospital recently established at that place.

Surgeon A. M. Clark, U.S.V., has returned to Washington, D. C., from a tour of inspection of the military prisons in the Western States.

Surgeon James C. Whitehill, U.S.V., has been assigned to duty as Surgeon-in-Chief, Kimball's Provisional Division, Little Rock, Ark.

Assistant-Surgeon J. W. Leete, U.S.V., to duty at General Hospital, West's Buildings, Baltimore, Md.

Surgeon H. A. Martin, U.S.V., is on leave of absence at Roxbury, Mass.

Surgeon E. Y. Chase, U.S.V., has been assigned to duty at Fort Hoskins, Oregon.

Assistant-Surgeon A. B. Chapin, U.S.V., has been ordered before the Board for the examination of sick officers, at Annapolis, Md.

Assistant-Surgeon F. Reynolds, U.S.V., has been assigned to duty as Medical Inspector, 3d Corps, Army of the Potomac.

The Floating Hospital Nashville, having been turned over to the Quartermaster's Department for repairs and alterations, Surgeon L. C. Rice, U.S.V., recently in charge, has been assigned to the charge of General Hospital No. 1, Vicksburg, Miss.

Surgeon A. P. Meylert, U.S.V., was relieved from duty as Medical Purveyor, at Louisville, Ky., on the twentieth ult.

Upon the recommendation of a Board of Officers, instituted by Special Orders 264, July 8, 1863, from the Office of the Adjutant-General, Assistant-Surgeon J. G. Wilbur, 18th Massachusetts Vols., has been honorably discharged the service of the United States, on account of physical disability, with condition that he shall receive no final payments until he has satisfied the Pay Department that he is not indebted to the Government.

Dr. Henry Martyn Kirke, of Ohio, to be Assistant-Surgeon of Volunteers.

The following officer having tendered his resignation is honorably discharged the service of the United States, at the date and for the cause set opposite his name:—

Assistant-Surgeon W. A. McCulley, 65th Ohio Vols., to date November 3, 1863, he having accepted an appointment as Surgeon of the 2d U.S. Colored Troops.

The Board of Officers, convened by Special Orders No. 265, June 27, 1863, from the Adjutant-General's Office, now in session at Columbus, Ohio, for the examination of sick officers, will transfer its sittings to Cincinnati, Ohio. All officers who have been examined by the Board, and who have been recommended to remain in hospital at Columbus under medical treatment, and those awaiting examination, will at once report to the President of said Board at Cincinnati, Ohio.

By direction of the President of the United States, Assistant-Surgeon Benjamin King, U.S.A., is retired from active service, and his name will be entered on the retired list of officers of the grade to which he now belongs in accordance with Section 13, Act approved July 17, 1862, he having been borne on the Army Register for more than forty-five years.

The following appointments of medical officers have been made during the week:—

Assistant-Surgeon Frederick Lloyd, U.S.V., to be Surgeon.

Dr. John F. Huber, of Pennsylvania, to be Assistant-Surgeon of Volunteers.

Dr. Charles H. Hood, of Ohio, to be Assistant-Surgeon of Volunteers, Assistant-Surgeon E. Bartholow, U.S.A., now on duty at Lincoln Hospital, Washington, D. C., will report in person to the commanding officer, Department of the Cumberland, Chattanooga, Tenn., for duty with that Army, and by letter to Assistant Surgeon-General R. C. Wood, U.S.A., at Louisville, Ky.

Assistant-Surgeon W. D. Wolverton, U.S.A., now on duty at Fort Pickens, Fla., upon the arrival of Assistant-Surgeon Hartant, U.S.A., at that place, to repair to Hilton Head, S. C., and report for duty to the commanding officer, Department of the South.

## Medical News.

DR. SALESBURY, Surgeon of the Enrolment Board of the Fourth Congressional District, charged with corruption, has, it is stated, been found guilty, and sentenced to thirty days' imprisonment, with a fine of \$200, and to be discharged from the U.S. service.

COMBINATION OF LITHOTOMY AND LITHOTRITY.—M. Alquié of Montpellier sums up a memoir on this subject with the following conclusions. 1. Where lithotomy appears to be indicated, in adults or old men affected with calculus of moderate size—from three to five *centimètres* (1.2 to 2 inches) in thickness—the stone should be also crushed. 2. The same thing should be done in the case of children and young persons in whom the stone is of similar size; if the stone be small and the case uncomplicated, lithotomy may be practised at once. 3. When the stone is of large size—six *centimètres* (2½ inches) or more in thickness—or in special cases, lithotripsy should be performed through the opening in the perinæum. This may also be done when there is a urinary fistula in the perinæum, which can be conveniently dilated. 4. But when the stone is of moderate or large size, lithotripsy should be first attempted through the natural passage; by which, in some circumstances, any further operation may be avoided.—(*Bull. Génér. de Théor.*, 15 Sept., 1863.)

OFFICERS OF THE VERMONT MEDICAL SOCIETY.—President, P. D. Bradford; Vice-President, O. F. Fassett; Recording Secretary, J. S. Richmond; Corresponding Secretary, D. R. Storey; Librarian and Treasurer, Charles Clark; Executive Committee, G. B. Bullard, S. Putnam, E. F. Upham; Committee on Admission of Members, D. W. Blanchard, H. L. Rodman; Committee on Printing, H. F. Stevens, C. B. Chandler, A. C. Welch; Delegates to Burlington Medical College, J. M. Stiles, E. A. Knight; Delegates to New Hampshire Medical Society, E. A. Knight, C. A. Perry; Delegates to New York Medical Society, H. Stevens, W. McCollum; Delegates to Rhode Island Medical Society, G. B. Bullard, W. M. Huntington; Delegates to Connecticut Medical Society, D. Woodward, C. B. Chandler; Delegates to Massachusetts Medical Society, C. M. Rublee, Earl Cushman; Delegates to Maine Medical Society, W. F. Blanchford, N. H. Kowles; Committee to assist the Secretary of State in Compiling the Registration Report, H. F. Stevens, Charles Allen; Delegates to American Medical Association, R. Russ, C. P. Frost, S. W. Thayer, H. F. Stevens, L. E. Simonds, J. S. Richmond, Lewis Emmons, Charles S. Downs, J. M. Stiles, William M. Huntington, B. F. Morgan, E. A. Knight, S. C. Butler.

## Original Lectures.

### LECTURES ON THE MORBID CONDITIONS OF THE BLOOD.

DELIVERED AT  
THE BELLEVUE HOSPITAL MEDICAL COLLEGE.

PRELIMINARY TERM, SESSION OF 1890-1.

By AUSTIN FLINT, M.D.,

PROF. OF THE PRINCIPLES AND PRACTICE OF MEDICINE.

#### LECTURE VI.

*Morbid Conditions due to the Presence of Morbid Products.—Pyæmia.—Putrid Infection or Septicæmia.*

THE morbid conditions of the blood which have been thus far considered, relate to its normal constituents. The presence in the blood of morbid products gives rise to conditions which are now to be noticed. The morbid products which may be contained in the blood are of two kinds, viz. 1st, Those formed within the body of the person affected, and, 2d, Those derived from the body of another person. The latter constitute the matter of contagion.

Of the first kind of morbid products, the only one of which we have much knowledge, is purulent matter or pus. The admixture of this morbid product with the blood gives rise to the morbid condition known as *purulent infection of the blood* or *pyæmia*. It has also been called *pyogenic fever*, *pus-blood*, and the *pus-crisis*. This is a highly interesting and important pathological condition. The presence of purulent matter in the blood in sufficient quantity to constitute a serious condition, occasions effects manifested in the blood itself, in the circulation, and in the solid parts of the body. Of these three orders of effects, the first seems primary, the two other orders being secondary and dependent on the first.

The purulent matter acts upon the blood as a poison. It induces a toxæmic condition. The fibrin decreases. The red globules are diminished in number. Coagulation is hastened, and clots are often found within the vessels and the cavities of the heart. The damage to the blood is great if the quantity of purulent matter exceed a certain amount. A small quantity may not be sufficient to infect the blood, and it is eliminated without inducing the changes just stated. Infection is found to occur more readily in certain conditions of the system, as when the vital powers are depressed and under certain epidemic influences. In experiments of injecting pus into the veins, dogs are found to possess a greater power of resistance to the effects than rabbits.

The circulation is notably enfeebled by the changes of the blood in pyæmia. The pulse is rapid and weak. The feebleness of the circulation progressively increases, and death takes place by cessation of the heart's action, or asthenia. Hæmorrhagic extravasations are apt to occur.

Of the effects manifested in the solid parts, the most striking and distinctive are purulent formations in various situations. These have been called "purulent deposits" and "metastatic abscesses," names which imply an erroneous view respecting their production. It was formerly supposed that the pus in the blood was taken up from some situation in which it existed without the vessels, and then deposited in other situations; in other words the collections of pus in different organs, in cases of pyæmia, were supposed to be made up of the pus contained in the blood. So far as the pus corpuscle is concerned this is physically impossible. The size of the pus corpuscle is such as to prevent its passage through the coats of the vessels. When pus is absorbed, the corpuscles are first disintegrated; its anatomical characters are thus destroyed. It can only enter the vessels from without, as pus, through an opening into a vein. And when contained within the vessels it cannot transude through their unbroken parietes, the cor-

puscles being larger in size than the red globules of the blood. The purulent collections, therefore, are not, properly speaking, deposits or metastatic, but involve the production of pus in the different situations in which it is found.

Another idea which has been entertained is, that, owing to their size, corpuscles in the blood are arrested in the capillary vessels, occasion mechanical obstruction, and serve as nuclei for fresh purulent formations. They have been supposed to act as globules of quicksilver injected into the veins in the experiments of Cruveilhier. Purulent collections were found in the lungs after these experiments, and in the centre of each collection was a globule of quicksilver. This idea is purely hypothetical, and is disproved by the following fact: The introduction of pus-corpuscles into the blood is not required for the production of the phenomena of purulent infection, but the presence of the pus serum is sufficient. This fact has been proved by injecting the serum of pus into the veins of inferior animals. Experiments also show that certain kinds of purulent liquid are more virulent than other kinds. The pus called ichorous is more poisonous than that known as healthy or laudable.

However produced, the occurrence of purulent collections in different situations is characteristic of pyæmia, as determined by clinical observation, so that these collections constitute evidence of the existence of a purulent infection of the blood. Frequently collections are found in different organs, and numerous collections in the same organ. They vary in size from that of a pin's head to a walnut. They may be circumscribed, constituting, in fact, abscesses, or the pus may be infiltrated. The organs in which they are most apt to occur are the lungs and liver, but they occur in the kidneys, within the joints, beneath the cutaneous integument, and in other situations. The effects manifested in the solid parts are congestions, especially of the form called hypostatic, in the lungs, hæmorrhages, and softening of the muscular structure of the heart.

Pyæmia existing sufficiently to present its characteristic manifestations, is an exceedingly grave condition, generally proving fatal. Whence does it originate? How is it produced? Pus existing without the vessels is not readily absorbed, and large collections are seldom removed by absorption. If not evacuated by surgical interference it makes its way by ulceration into some outlet, and is thus discharged. But when removed by absorption it is eliminated from the blood without inducing the phenomena of infection. Its accumulation in the blood from absorption in sufficient quantity to occasion pyæmia is perhaps possible, but instances, if they ever occur, must be extremely rare. Purulent matter may get into the blood through openings into veins by wounds or by means of ulceration. This is more likely to occur in bony structures than in soft parts, because in the former the orifices are less likely to collapse, but may remain patenscent. An abscess may discharge more or less of its contents into a large vein to which it is in close proximity. There are, perhaps, occasional sources of pyæmia, but in the great majority of cases it is attributable to inflammation of the lining membrane of veins or phlebitis.

Phlebitis leads generally to coagulation of blood within the affected vessel, and its occlusion by the clot together with exuded fibrin. This occlusion may be permanent, the vessel becoming obliterated and the blood seeking collateral channels, or the coagulum and exuded fibrin may be gradually disintegrated and the calibre of the vessel restored. No purulent infection occurs in these cases. But pus may be produced within the inflamed vein.

The pus may be isolated by coagula at either extremity of the affected portion of the vessel, the coagula acting as plugs which prevent the passage of the pus into the circulation. The inflamed vein is sequestered, to adopt the term employed by Cruveilhier, and pyæmia is thus prevented. The pus, under these circumstances, may be gradually absorbed, or it may make its way externally, or into some outlet, and be discharged. If, however, suppuration



takes place and the sequestration be not complete, the pus is carried into the circulation and is mixed with the blood. Pyæmia is then produced.

Phlebitis may occur in different situations. It is sometimes seated in the vena portæ. Portal phlebitis is a rare form of disease, and not easily recognised by the symptoms during life. The purulent formations in cases of this disease are found especially in the liver. Phlebitis in various situations is liable to follow injuries and surgical operations. Patients who die shortly after some accidental injury or operation, not severe enough to destroy life by shock, are, in general, cut off by pyæmia.

Inflammation may extend from the structures in different organs to adjacent veins. This may happen anywhere, but it is oftenest observed in cases of caries affecting the bones of the head. The unexpected development of grave symptoms and death in certain cases, is in this way accounted for. After confinement uterine phlebitis occurs, more or less, as a necessary result; and pyæmia is the morbid condition in certain of the puerperal fevers. A patient is delivered without any untoward events, but the system is much reduced by the state of pregnancy. In two or three days the pulse becomes frequent and feeble, slight chills occur with prostration, and, at length, delirium; death takes place with no symptoms denoting any local affection adequate to account for the fatal termination. This is a sketch of cases which all practitioners of much experience must have met with. They are cases of pyæmia due to uterine phlebitis. During the prevalence of certain epidemic influences such cases are frequent, and they occur at times in large numbers, in lying-in wards, from nosocomial influences.

The account of pyæmia just given is believed to be in accordance with the views held by most pathologists at the present time; but the proof that the morbid condition thus named is due to the presence of pus in the blood, it must be confessed is not as complete as could be desired. It was formerly supposed that the existence of pyæmia was demonstrable, the presence of pus-corpuscles being ascertained by microscopical examination. But the best microscopists are now agreed that pus-corpuscles are not distinguishable from the white globules of the blood, and it is probable that they are in fact identical. So far, then, as the anatomical characters of pus are concerned, or, as Virchow styles it, morphological pus, its presence in the blood as a result of phlebitis or of its introduction in any other mode, is not demonstrable. It is impossible, in other words, by means of the microscope, to discriminate between leucocythemia and pyæmia. Virchow mentions that in many of the cases in which phlebitis is supposed to exist, coagula are formed without inflammation (thrombosis), and that under these circumstances, dissolved fibrin, forming a puriform liquid, is carried into the circulation, not true pus. That a morbid condition of the blood exists, giving rise to the phenomena which are described as belonging to pyæmia, is not to be doubted, but it must be considered as doubtful whether the presence of pus-corpuscles has anything to do with the production of these phenomena. As already stated, experiments on inferior animals show that the phenomena of purulent infection of the blood may be produced by injecting pus-serum without the pus-corpuscles.

The existence of pyæmia is to be determined during life by the occurrence of chills, rapidity and feebleness of the pulse, prostration, etc., after wounds, surgical operations, confinement, or when these symptoms coexist, with phlebitis, developed spontaneously in a situation in which it may be discovered. But in some cases there are no grounds irrespective of the general symptoms to suspect phlebitis, for example when the portal vein is affected. In such cases the occurrence of these general symptoms, if they are not otherwise to be explained, should lead to the suspicion of pyæmia. Disseminated purulent collections beneath the integument are determinable during life, and these are important in a diagnostic point of view. Effusion within

joints, taken in connexion with the gravity of the general symptoms, is highly diagnostic. This event is liable to lead to the error of mistaking pyæmia for articular rheumatism.

Of the therapeutical indications little need be said. There are no special remedies for pyæmia. A fatal termination is due to the destructive changes in the blood and the secondary affections. A favorable termination must depend on the elimination of the poisonous matter, restoration of the normal condition of the blood, and recovery from the local effects. There are no particular remedies to be directed specifically to these ends. The objects of treatment, in general terms, are to palliate symptoms and sustain the powers of life. Sustaining measures are chiefly indicated; the aim being to prolong life until the processes of restoration are completed. The indications are the same as in the essential fevers and various other affections; and the measures are the same which will be hereafter noticed in other connexions, viz. tonic remedies, stimulants, and nutritious alimentation.

The absorption of pus and other morbid products, or of any animal matter within the body, in a state of decomposition, is supposed to induce a morbid condition of the blood distinguished as *putrid infection of the blood*, or *septicæmia*. The febrile movement and hectic paroxysms with more or less prostration, etc., accompanying purulent collections which have become putrid from contact with air, as in cases of empyema with perforation of the lungs or thorax, are attributed to a morbid condition of the blood thus induced.

Putrid infection is supposed to occur in the puerperal state from the absorption of portions of the placenta remaining and undergoing decomposition within the uterus. The grave general symptoms in certain cases of diphtheria are thought to be due to septicæmia induced by absorption of the decomposed exudation. That the blood may be poisoned by the absorption of putrid matter, is rendered probable by clinical observation and by experiments on inferior animals, but it is not easy to determine to what extent morbid phenomena are referable to this source. In cases of diphtheria, for example, it is perhaps more reasonable to attribute the general condition to the action of the special cause of the disease than to an infection by the products of disease.

## Original Communications.

### BRONCHOTOMY,

WITH A STATEMENT OF FORTY-THREE CASES.

By ALFRED NORTH, M.D.,

WATERBURY, CONN., LATE HOUSE-SURGEON TO N. Y. HOSPITAL.

(Concluded from page 254.)

#### V. PRESSURE OF TUMORS ON THE TRACHEA.

ONE of the most common forms of tumor pressing on the trachea, is the aneurismal. This so closely simulates laryngeal disease, that in some cases it is very difficult, if not impossible, to recognise it.\* Dr. Stokes says, attention to the following points will prevent an aneurism from being confounded with disease of the larynx:—"1st. Evidence of internal pressure; 2d. Evidence of solidity in the upper portion of the chest; 3d. Proper signs of aneurism; 4th. Difference in radial pulse."

In five of the tabulated cases the obstruction was caused by the pressure of an aneurism on the trachea, in only one of which could this be distinguished previous to death, although examinations were made with this end in view. The history of these cases would seem to afford valuable suggestions in reference to the diagnosis of this disease. In three cases the pain was referred to the top of the sternum, and not to the region of the larynx, as is almost

\* Copland's Med. Dict., vol. II., p. 807.

invariably the case when this organ is the seat of obstruction; in three of the cases there was coldness of the extremities, while in all of them the pulse was frequent and feeble; cough, dyspnoea, and dysphagia were also present in each case.

**Case 18.**—Supposed laryngitis; aneurism of the arch of the aorta encroaching on the trachea.

Mr. E—, aged 36 years, was, during the month of August, 1856, subject to frequent attacks of dyspnoea, threatening instant death. Patient was a seafaring man, and had always enjoyed uninterrupted good health, with the exception of the present attack, which commenced while on a voyage from Liverpool, when he was suddenly seized with loss of voice, which he never afterwards recovered. His throat also became sore, and was attended with cough. On his arrival, about six weeks ago, he placed himself under the care of a physician, who has attended him since. His symptoms are those of laryngitis, and have been treated judiciously and energetically, but without benefit, and his condition has been growing worse.

On July 29th Dr. Watson saw the patient, and from his examination of the case regarded the obstruction as depending on laryngitis. The condition of the patient at the time of the operation was as follows: He was sitting up in a chair, his head inclining forward, and his elbows resting on the back of another chair. His voice could not be raised above a whisper, and had been in this condition uninterruptedly since the commencement of his sickness. His breathing was comparatively easy, but soon became noisy and stridulous after the effort of conversation. He was unable to lie down in consequence of its bringing on suffocative attacks. Swallowing often caused strangling. There was no marked difference between expiration and inspiration in regard to dyspnoea. Inhalation and exhalation through the nostrils were sometimes practicable, but often impossible. The patient referred the seat of the obstruction to a point lower down than the larynx; pressure upon the larynx in every direction caused no pain. By exploring with the finger the epiglottis and orifice of the larynx, they were ascertained to be in a normal condition. The countenance presented an anxious, haggard appearance. The pulse was frequent, about 120, small and weak, but regular.

**Operation.**—Tracheotomy was determined upon, and performed by Dr. Buck, with the assistance of Drs. Post, Lente, and Schapps, without the aid of ether. On attempting to lie down an attack of dyspnoea and suffocation was brought on, which obliged us to allow him to sit up. After exposing the trachea and its upper rings, and allowing the hæmorrhage to cease, an opening was made through three of the rings, and a full-sized tube inserted. To our great disappointment no relief was afforded, nor could we perceive that any air passed through the tube. It was noticed that in making the incision through the trachea there was no whizzing noise, such as is produced when the larynx is obstructed. A protracted fit of coughing followed the introduction of the tube, but without any expectoration. It was now evident that the seat of the obstruction was lower down. A small sponge secured to the tapering end of a quill was passed through the tube down to the bifurcation three or four times without dislodging any obstruction. Brandy and water was administered to revive the patient's strength, which he swallowed with no less difficulty than before the operation. Towards morning the patient obtained some relief from his dyspnoea by a copious expectoration of viscid secretion. Notwithstanding this relief, patient died on the second day after operation.

Post-mortem examination revealed a large aneurism of the arch of the aorta, encroaching on the trachea at its bifurcation, and very considerably diminishing its calibre. The heart was considerably hypertrophied, especially the left ventricle.

#### VI. MEMBRANOUS CROUP.

**Case 32** is interesting as showing the effect of croup in suspending labor, and relief afforded by the operation.

Emily White, aged nineteen years, was in her eighth month of pregnancy, and suffering from hysterical convulsions, to which she was occasionally subject. She was a woman of delicate habit and nervous temperament, but presented no marks of constitutional disease. Nothing occurred to call especial attention to her until the evening of the fifth day, when she had another attack of hysteria, accompanied by some dyspnoea and aphonia. The difficulty of breathing subsided, but the aphonia remained. Soon after dyspnoea returned, and an examination of the throat and chest was made; but as no evidence of inflammatory or constitutional disease was discovered, the trouble was regarded as spasmodic, and treated accordingly. On the afternoon of the sixth day her symptoms became much aggravated; the pulse was 120, and full; tenderness over the larynx; cough with frothy expectoration; considerable dyspnoea, with dysphagia. Eight leeches were applied over the larynx. The next morning the dyspnoea was somewhat relieved, and the patient felt more comfortable. She began to complain, however, of pain in the lower part of the abdomen; premature labor being feared, opium was administered with a view to check it, but at noon the membrane was ruptured, the liquor amnii discharged, and the second stage of labor progressed rapidly. The dyspnoea in the meantime became greater, the pulse more rapid and smaller, patient tossing about the bed, and suffering intensely from the pain. The head advanced into the inferior strait, where its progress ceased, the pains still recurring frequently, but producing no effect. After the head had been arrested nearly an hour and a half, the condition of the patient was decidedly worse; the pulse was 140 and very feeble, and the dyspnoea was rapidly increasing. The labor pains, which produced no expulsive force, only exhausted the patient, and it was evident that, unless the breathing could be relieved, the woman would die undelivered. Under these circumstances laryngotomy was determined upon and performed. The relief was instantaneous, and the patient breathed freely, and went to sleep. In the course of three hours a dead child was expelled; the uterus contracted firmly; there was no hæmorrhage, and until midnight everything promised favorably. At this time the pulse, which had been reduced by the operation from 150 to 120, began to grow weaker and more rapid; the respiration continued free, but increased in frequency. In spite of free stimulation she continued to sink, and died at five A.M., about twelve hours after the operation.

The forty-three cases have been analysed in the following manner:

**Sex.**—Of the whole number twenty-eight were males and fifteen females. Of the cases that occurred at the New York Hospital, all were males except one.

**Age.**—Of the forty-three cases the average age was about thirty years. The youngest was three years old, the oldest was fifty-two. Thirteen were twenty-five years of age or younger; between twenty-five and forty years there were twenty-six cases; while between forty and fifty-two there were only four cases. In a report of eighty cases from English hospitals the average age was about twenty years; the youngest case was only eleven months old. From which it would appear that tracheotomy, although applicable to all ages, is most frequently resorted to in persons under thirty.

The condition preceding the operation was in nine cases that of nearly complete apnoea; in four the dyspnoea was so severe as to threaten suffocation; in sixteen the dyspnoea was urgent; in nine cases the dyspnoea was connected with difficulty of deglutition; in six only was there aphonia. In Case First (syphilitic ulceration of the larynx) the condition of the patient preceding the operation was improving, as will be seen from the following history of the case.

**Feb. 8.**—Patient cannot lie down through dyspnoea; expiration seems to be effected with more difficulty than inspiration; expectoration very copious, of viscid mucopurulent matter, and effected with much pain; deglutition excessively difficult, can only swallow fluids. Under the

steady and cautious use of mild mercurials and iodide of potassium, these extreme symptoms yielded during the following week, and the patient's condition improved somewhat, his gums being distinctly sore from mercury at the time of the amendment. But the improvement was not progressing; he still suffered from frequent paroxysms of dyspnoea, relieved by copious expectoration, the amount of the latter being excessive; his pulse continued above one hundred, with much emaciation and debility, and great difficulty of swallowing; lungs free from disease. In this condition the operation of tracheotomy was decided upon with the view simply of facilitating the function of respiration, and, by placing the larynx at rest, of contributing to its restoration. The immediate consequence of the operation was most favorable. Expectoration diminished, together with the constant and annoying hawking, spitting, and coughing; breathing entirely free. Capacity to take solid food returned in a few days; sleep was undisturbed. On the twenty-seventh his pulse had fallen to 90 (from 120), and on the ninth of March he was reported to be gaining rapidly, to have lost his phthisical look, and to be growing fat. Six months after the operation patient left the hospital wearing the tube.

The previous treatment in eight cases of syphilitic disease of the larynx was mercurial, in one of which scarification was also employed to relieve the cedema of the glottis. In three cases in which there was a foreign body, a probang was passed down the oesophagus; in one, emetics, and inversion in another, while in the third no treatment preceded the operation. Scarification of either glottis, epiglottis, or tonsils in five cases, and in two it was rendered impracticable on account of the severe dyspnoea which it occasioned. In seven cases counter-irritation and diaphoretics were used; in one the topical application of the nitrate of silver was employed. In one case of wound of the throat an elastic tube was passed into the larynx. In the remaining sixteen cases the treatment was not given.

The obstruction was caused in nineteen cases by syphilitic disease of the larynx; in nine by laryngitis, three of which supervened on wounds of the larynx, and one on typhoid fever; in three by the presence of foreign bodies. In five of the cases the obstruction was caused by the pressure of an aneurism on the trachea, in four of which cases (13, 16, 35, 36) its presence was not discovered until after death. In three cases from cedema glottidis; in three from membranous croup, one of them complicating labor. In one case from tetanus, and one from tonsillitis.

**Operation.**—Tracheotomy was performed in thirty-one cases, laryngotomy in twelve cases. Ryland, in speaking of bronchotomy, says: "The first great cause of failure is delay,"\* and adds, "I can truly say that I have seen several cases lost by delaying the performance of this operation, but never one by opening the windpipe too early." Marshall Hall says: "It is too late to operate when the countenance is pallid, face livid and cold, and pulse sinking."† In seven of the reported cases the patient was apparently in a dying condition, but all rallied after the operation, and then recovered. Dr. Detmold has operated twice when his patient was apparently dead, and both recovered. Dr. Buck says: "It is never too late," he has operated twice under same circumstances with success.

In Case Fifth the operation was attended with considerable hæmorrhage, the fatal effects of which were prevented by the speedy opening of the trachea, and the removal of blood by suction with the mouth. Prof. Brainard says: "He never opens the trachea until bleeding has stopped." M. Mashieure states that he never stops to tie arteries or veins unless hæmorrhage is very abundant, as this is best controlled by free respiration.

The immediate result of the operation in twenty cases was great relief of embarrassed respiration; in five cases it was spoken of as being instantaneous; in four cases as

partial; while in one case the patient died during the operation.

**Termination of the Disease.**—Of the forty-three cases twenty-three recovered, and twenty terminated fatally, or a little over one half recovered. In the eighty cases from English hospitals, thirty-three recovered, and forty-seven died, or about two in every three recovered. The youngest in the fatal cases was six years old, the oldest was forty-three, the average being about twenty-nine years. Of these there were nine under the age of twenty-five years; ten between twenty-five and forty, and only one over that age. Of those who recovered the youngest was three years old, and the eldest fifty-two; the average age was about thirty. There were fourteen cases under thirty years, seven between that age and forty, and in two the age was not mentioned.

Of the successful cases the recovery was complete in twelve, and in eleven the tube was still retained, although in several of these latter cases the breathing through the natural passages had improved, as will be seen by reference to the table. In Case Fifth it was thought by Dr. Loomis that the tube might have been previously removed, but was retained by patient's request. Of the fatal cases one died during the operation, one just after its completion, and nine on the following day. The longest duration of any case was eleven days.

In forty-three of the collected cases the operation was followed, in five of them by bronchitis, and in two of these caused death. In the five cases, with one exception, in which the bronchitis was slight, it supervened after the operation for syphilitic disease of the larynx. The same is true in the English cases before referred to. May it not then be, as has been in a measure proved by Virchow, Stokes, Munk, and Graves, that syphilitic disease extends from the larynx into the bronchi, and there gives rise to syphilitic bronchitis? Of this, Dr. Stokes says: "I have known it to take precedence of the affections of the throat, but far more frequently it succeeds to this; the morbid action creeping gradually and slowly along the larynx and trachea into the bronchial tubes."\* Will it not appear probable, then, that syphilitic poison predisposes to bronchitis?

#### PATHOLOGICAL APPEARANCES ON DISSECTION.

In twelve cases necropsies were made, and revealed the following lesions: in two cases of laryngitis there was found in one the fauces and larynx of a bright red color, and coated with a layer of yellow lymph; in the other the inflammation had extended down, and had given rise to a semi-organized membrane, lining the upper part of the bronchi. In one case there was extensive disease of the lungs, probably caused by a wound. In one case a large abscess had burrowed its way into the deeper portions of the neck, thus compressing the trachea. In Case Sixth there was extensive cedema of the glottis, epiglottis, pharynx, and soft palate, with considerable detachment of the mucous membrane of the mouth from inhalation of steam. In one case there was entire destruction by ulceration of vocal cords and epiglottis, with an opening leading from the oesophagus into the larynx. In five cases there was an aneurism of the arch of the aorta pressing on the trachea.

A CHILD, two years old, was, on August 12th last, presented to the Academy of Surgery by M. Chassaignac, as an example of syphilis communicated by vaccination. The child was examined by MM. Cullerier and Guersant, and the disease declared by them to be a topical specimen of syphilitic vaccination.—*Brit. Med. Jour.*

The French Medical Association has just held its annual meeting in Paris, under the presidency of M. Rayer. The society is five years old; and already numbers 5,746 members, having from its birth gone on gradually increasing. It consists of ninety local societies; and has at its disposition a sum of about £12,000.—*Brit. Med. Jour.*

\* Ryland, on the Larynx and Trachea.

† American Journal of Medical Science.

\* Aston, on Urinary and Generative Organs, p. 489.

REMARKS ON THE  
USE OF PERMANGANATE OF POTASSA  
IN THE TREATMENT OF HOSPITAL GANGRENE  
WITH CASES.

By F. HINKLE, ACTING ASSISTANT-SURGEON, U.S.A.  
(Concluded from page 264.)

CASE I.—Samuel M. Cambridge, private, Co. F, 95th Pa., Oct. 17th. Admitted to Cambridge Hospital Washington, D.C., May 8th, 1863, with gunshot wound received at the Battle of Fredericksburg, May 3d, 1863. Upon examination found the ball (minié) had passed through the thigh about three inches above the knee-joint antero-posteriorly; entrance internal to the rectus femoris, and exit on a line with the external hamstring muscle, causing compound comminuted fracture of the left femur; splitting the condyle. There was also a flesh wound in the right leg. The treatment pursued up to the period of amputation of the thigh was simple dressings, and the application of Smith's anterior splints. May 29th, 1863.—Patient etherized and a thorough examination was made; found amputation of the thigh was necessary, which was performed. He bore the operation well, in the evening appeared quite bright and cheerful, though much exhausted. Ordered two ounces of wine with morphia sulph. May 30th.—Rested at intervals of one and two hours well during the night. He looks well, pulse 100. Skin good, has spells of nausea due to the effect of ether and morphia after the operation. The stump was dressed with simple dressings, and every five hours a cloth saturated applied with the dilute solution of permanganate of potassa, which was made only 30 grs. to the pint of water; it was intended only as a deodorizer and stimulant to the circulation in the stump; it maintained a healthy tone, and prevented sloughing, which so often occurs from feeble circulation in the flaps. June 1st, 1863.—The stump looks well, parts neatly approximated. He was removed to the garden between the wards for fifteen minutes to refresh himself; this created quite a joyful feeling of animation. June 2d.—From this date patient progressed favorably, and on the 1st day of July, the stump had entirely healed. July 1st.—Gangrene set in, the constitutional symptoms were active and very alarming. Pulse 120, intense nausea, vomiting, and bowels very loose. He suffered the most agonizing pains in the anterior crural and femoral nerves, just below Poupart's ligament, for which a lotion was ordered. Tinct. saponis comp. §iv.; Tinct. opii §ij.; tr. arnic. 3j. A piece of flannel was soaked in it and applied frequently. Ordered internally sol. quiniæ sulph. §ij. (3ij), vim xerici §ij. Teaspoonful every four hours. Ordered pil. opii et comp. no. vi., one every five hours, until the excessive action of the bowels be arrested. The stump along the line of incision was swollen, its edges showing slight eversion, with large whitish blisters over the cuticle, especially in the incisions. Several spots were sloughed through the skin, from which discharged a thick cheesy liquid, highly offensive in smell. The treatment locally was a constant application every two hours of the solution of permanganate of potassa, one drachm of the salt to a pint of water. The following formula was then ordered—R. Potass. permanganatis 3j., acid. sulph. gtt. xii. aquæ fluv. Oj. liq., mix; wash, and paint the parts freely every three hours, extending it several inches beyond the disease. A wet cloth with the same solution diluted one half was constantly applied at each dressing. July 2d.—Patient continued very pallid; intense nausea, retains no food on his stomach. Pulse 120, very thread-like, easily compressed. Gangrene has extended about two inches on each side of the line of incision. The parts were much swollen, and presented a pulposus appearance, ash grey color, discharging a thick liquid of the same color. I was peculiarly struck this morning with the little odor emanating from the melting flesh in the progress of gangrene. The nurses in the ward, as well as myself, witnessed it did correct the foetid odor in this and all the suppurating

wounds to which it was applied; the treatment was continued. I visited the patient often after the gangrene set in, and this evening, six o'clock P.M., thirty-six hours after the first symptoms, the disease is arrested. July 3d.—Patient is gradually improving. The gangrene is arrested, and shows signs of separation. Skin beyond assumes a normal appearance, heat and swelling are decreasing, and the shining appearance of the cuticle, where it was raised in blebs, also was removed, leaving nothing now but the gangrenous mass about three inches in width. The bowels have now become quieted; discontinued the op. et camph., and ordered potass. permanganatis grs. xii., aquæ §j., six teaspoonfuls every four hours, so that he had four to eight grains daily of the salt. Continued the solution quinia sulph. and wine, but less frequently. July 4th.—Patient is decidedly better; the wound is cleansing itself from the disease. His general appearance greatly improved, appetite and spirits are returned. He was greeted at an early hour by the arrival of his parents from Philadelphia, who had been telegraphed for, believing it would do much to rally him from the effects of the terrible ordeal he had passed through within the last four days. Treatment was continued, only the strong solution was not repeated quite as often. He was carried out into the open air in the shade daily. July 7th.—The gangrenous mass has sloughed away, leaving a clean wound. July 8th.—The wound is clean, and commencing to repair with granulations. The wound was now dressed with wet lint soaked in the dilute solution of permanganate of potassa. His case from this date did well, and he went home on furlough about the fifteenth day of July, when his wound was nearly cicatrized.

CASE II.—Corporal James Hoag, Co. A, 60th Pa. regt., æt. 16, admitted into Jarvis U.S.A. General Hospital, Baltimore, Md., July 17th, 1863, with gunshot wound of right thigh, received at the battle of Gettysburg. Both wounds were healthy, and had nearly healed, when on the 1st of September they became painful, and he could not sleep. Sept. 2d.—The ulcers were irritable, and covered with a dark brown slough; appetite failing; tongue coated, and some fever. R. Quiniæ sulph., gr. xx.; acid. sulph., gr. ss.; aquæ, §ij. M. S. a teaspoonful every three hours; also sprts. ferment. §vj., S. two tablespoonfuls every four hours. Sept. 3d.—The wounds are evidently in gangrenous condition, and the disease is spreading. Patient complains of a good deal of pain. Same constitutional treatment continued, with the addition of the local application of the sol. of potass. permanganate every three hours. Sept. 4th.—No improvement; same treatment, only the local remedy applied every two hours. Sept. 9th.—The disease has steadily progressed, and destroyed a large portion of the cellular tissue around the wound, but seems now arrested. Sloughs are still firm, but the line of demarkation is well defined, and the patient is much easier. The same treatment is continued. Sept. 19th.—Nearly all the diseased tissues have sloughed off, and healthy granulations have commenced. The wounds present great cavities, which will take a long time to fill up by granulations. Patient is very feeble, and considerably emaciated, but his digestion seems rallying, and he is getting comfortable and cheerful. Oct. 19th.—The parts that were so much eaten out by gangrene are now granulated up to the surface, and are level with the healthy tissues. Cicatrization is going on rapidly. There is no longer any need of stimulants, for all his flesh has come back, and has a general healthy tone. The lower wound has almost healed, and the other is improving as fast as could be hoped for.

CASE III.—Charles McElroy, private, Co. K, 17th Conn., æt. 40, admitted to Jarvis U.S.A. General Hospital, Baltimore, Md., July 14, 1863, with three wounds of leg, received in the battle of Gettysburg, July 1, 1863, treated in the Eleventh Army Corps Hospital previous to admission. His wounds progressed favorably for a month, although the whole belly of the gastrocnemius and soleus muscles was carried away by a fragment of shell. The limb presented a frightful appearance, the vitality having

been destroyed far beyond the seat of injury, terminating in extensive suppuration, inflammation, and sloughing. The length of the wound was nearly six inches. Sept. 1st, 1863.—The suppuration and inflammation have entirely subsided; the greater part of the wound is granulated and healed. Sept. 3d.—He was suddenly seized with violent constitutional disturbances: a high grade of fever pains in his head, back, and limbs, with frequent chills. Gangrene set in, and in twenty-four hours opened the entire wound, everting the integument, and the pulposus variety of slough was presented *en masse*, elevating itself fully two inches above the level of the wound, of a dark ash-colored appearance, apparently liquefying the flesh every hour as it progressed. The discharge was of a thick sanious liquid, which was highly pungent and very offensive, so much so that the nurses or those in attendance could scarcely remain in his presence a moment without experiencing sickness of the stomach, and this lasted during the first four days. The patient rapidly sank under the disease, and he had to be hourly watched, night and day, supporting him with diffusible and nervous stimulants and tonics, a good nutritious diet, essence of beef, oysters, etc. He was also placed under the immediate use of permanganate of potassa; from four to eight grains were given in twenty-four hours, which was continued daily for a month, moderating the dose as the patient improved. The concentrated solution was applied with a hair pencil every hour for the first three days, and lint saturated with the dilute solution constantly. The disease yielded on the fourth day. On the tenth day after the arrest of the disease, the entire wound was cleansed of the gangrenous mass, leaving a deep and dangerous wound. The blood-vessels and nerves were exposed *in situ*, also a part of the fibula. The pencil could be passed up two or three inches under the skin; thus almost the entire posterior part of the leg was turned into a very frightful looking wound. Sept. 20th.—Patient gradually began to recover his appetite, which was entirely gone, and it was with the greatest difficulty he could be supported through the disease, and so great was his prostration that all had despaired of his life for days. Nov. 5th.—He is now rapidly improving, and the wound has granulated up beyond our expectation, and more than three-fourths of it has cicatrized under the treatment.

I would, in conclusion, state, that in private practice at my home in Marietta, Penn., I have successfully used the permanganate of potassa in the treatment of leucorrhœa and other uterine affections. In one case of a melanoid cancer of the scalp, involving the bones of the skull, where I removed the tumor, and it afterwards returned, I have, by using the permanganate in the form of an ointment in the proportion of 30 per cent. to an ounce of simple cerate, been enabled to correct the foetid odor of the discharge, and also have succeeded in retarding the spread of the disease. In purulent ophthalmia I would recommend its use as a collyrium; and finally I feel confident that in many instances it can supplant the use of nitrate of silver, etc., as a more safe and powerful escharotic.

I herewith give the correct formula of liq. potassæ permanganatis, which is 85 grs. to the fluid ounce of water, dissolved by heat, as furnished by Henry Bower, chemist, of Philadelphia, from whom we are supplied by Government:—

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—At my request, Acting Asst. Surgeon F. Hinkle, U.S.A., an experienced physician and surgeon of twenty years' standing, has kindly furnished your valuable journal with a highly interesting and important report on the use of permanganate of potassa in the treatment of hospital gangrene. He was the first, I believe, to recognise its value as a remedial agent in arresting that terrible malady, hospital gangrene. In some sixty cases of the disease occurring in this hospital after the battle of Gettysburg, we have together given the disease especial attention, and are satisfied that when properly applied, the salt possesses

wonderful virtues, and is far superior and more certain in its action than any other remedy we have yet tried. To the military surgeon it must be marked in the same category with such medicines as quinine and opium. The disease was not new to me, for some years since, while an assistant in the New York Hospital, I witnessed it rage to a fearful extent in the surgical wards there, where we treated it with nitric acid and antiseptic dressings. In cases where the pain was excessive, I was the first to use the local application of chloroform by touching the gangrenous parts with a hair pencil, previously immersed in chloroform. The use of nitric acid has not given that satisfaction, or the happy results we claim for the permanganate of potassa. The report of Dr. Hinkle embodies much valuable information in using the agent, and should be read with attention. In the treatment of our cases we became quite expert, so much so that in several instances we could predict the time in which the disease would be arrested, and never felt alarmed that it would become uncontrollable. The only case that terminated fatally was where the disease extended from the foot to the knee, and where we tried nitric acid, alternating it with the permanganate of potassa. The man was of bad constitution, and after death the post-mortem examination revealed pyæmia. It has occurred to both of us, whether there is not some pathological connexion between these two diseases, and I concur with the opinion expressed by Dr. Hinkle, that hospital gangrene depends on an impoverished or poisoned condition of the blood, not yet fully understood.

DEWITT C. PETERS, Asst. Surg. U.S.A.,

JERVIS GEN. HOSP., BALTIMORE,  
Nov. 6th, 1863.

## Reports of Hospitals.

CHURCH U.S.A. GENERAL HOSPITAL, MEMPHIS, TENN.

C. H. CLEVELAND, ACT. ASST. SURGEON U.S.A., IN CHARGE.

REPORT OF FIVE CASES OF HOSPITAL GANGRENE,

By D. C. LLOYD, MEDICAL CADET, U.S.A.

CASE I.—Hiram Butkin, aged twenty-two years, private, Co. G, 28th Wisconsin Infantry, was wounded at Helena, Ark., July 4, 1863, in the inner side of the middle third of the right thigh; ball passing through, and coming out at the opposite side. The inner wound had cicatrized. The outer one still suppurating. On the nineteenth of July he felt a sharp pain in the inner wound, and in two days ulceration commenced, which upon investigation was found to be gangrenous. Labarraque's solution and sulphate of zinc were applied, but the gangrene extended. He was transferred to Church hospital from the Union hospital, September 1, 1863. Patient on admission is very weak and depressed, and is anxious to have his thigh amputated. His general complexion is of a light sallow hue; skin moist; appetite poor; tongue moist and clean; pulse 87, full; temperature of the body 92°. His wound presents dark gangrenous sloughs, three-fourths of an inch in depth, one and a half inches transversely, and four longitudinally. The edges of the wound are inverted, and of a livid hue. The cellular, muscular, and subcutaneous tissues are involved, emitting a foetid odor, and copious exudation of a reddish brown color. The parts were well denuded of destroyed tissue with the forceps and scissors, and thoroughly syringed with warm water, and then swabbed out with a piece of dry cloth wrapped around a stick. The compound solution of bromine (Smith's) was applied, and the wound dressed with simple cerate. Stimulants were ordered every two hours, also nourishing diet. On the 5th he had diarrhœa, which was controlled by Hope's



mixture. Having obtained some pure bromine on the 10th, the wound was thoroughly cleansed; the patient put under the influence of chloroform, and the bromine applied to the wound by means of a swab. His bowels are regular, and he says he sleeps well; appetite poor; tongue clean, and moist; skin moist; pulse 120, regular, but weak; temperature 92°. September 12.—General health improving, spirits enlivened, appetite improved, says he sleeps well; tongue moist; skin moist; pulse 75, full; temperature 95°; bowels regular. The surface of the wound is free from gangrene, but the intermuscular tissues are still gangrenous, and the wound on the outer side of the thigh discharges foetid, ichorous matter in considerable quantity, which has a strong gangrenous odor. Warm water was injected with a syringe through the wound, from the inner to the outer side, and the dead tissue dissected off as clean as possible, which prepared the wound for the action of the bromine, which was injected in both openings with a small glass syringe, after which simple cerate dressings were applied. On the 14th, at which time a thorough cleansing could be made, no gangrene remained: no foetor attended the wound. The discharge was of a laudable character from both orifices. The patient's general health began to improve.

Since the 14th he has continued to improve without any apparent relapse, with the exception of a slight attack of diarrhoea, which was readily controlled. The wound has granulated admirably; the intermuscular spaces are now (Oct. 1) all closed, and cicatrization is going on. The patient is convalescent.

II.—Allen Claud, aged forty-one years, private, Co. H, 22d Iowa Vols., was wounded in the left arm at Vicksburg, May 22, 1863. His arm was amputated on the following day by a Confederate surgeon, at the upper and middle third, without the benefit of an anæsthetic. After the lapse of a few days, he was sent to Memphis, Tenn., and placed in the Webster hospital, where his wound progressed favorably, and had completely cicatrized, with the exception of a small spot, the size of a hazel-nut, in which gangrene showed itself on the seventh of August. He says there were gangrenous patients in the ward, and all the wounds were cleansed with the same water and sponge. The stump had been cauterized with nitric acid, and the liq. ferri persulphatis had been applied. Quinia had been administered internally. He was transferred from the Webster to the Church hospital, August 13, 1863.

On admission his general system is debilitated. He says he feels very weak, and fears he shall not get well; expresses desire to be relieved by death. His appetite is poor; tongue clean and moist; skin moist; pulse 120, of moderate strength; temperature of the body 92°. His wound is very foetid, the sloughs presenting a dark grey appearance, extending one inch in depth, forming a ring of gangrenous tissue around the stump, and extending one and a half inches into the intermuscular spaces. The dead tissue was dissected off as far as practicable, and the part thoroughly cleansed with warm water. Bromine was applied by means of a swab, and the part covered with a cloth spread with a simple cerate, and then bandaged. No improvement could be recognised on dressing the wound on the morning of August 14, owing to the fact of the bromine not reaching the vitalized tissues. Labarraque's solution was applied, and ordered to be repeated every two hours, diluted in the proportion of two ounces of Labarraque's solution to a pint of water. The patient ordered nourishing diet, and half an ounce of brandy every two hours.

Aug. 14th.—The patient's appetite unimproved. Says he has pain at night, but sleeps well in daytime. His tongue is moist; bowels regular; pulse 112, weak. Quinia was again applied, the part enveloped with a cloth spread with simple cerate, the whole well bandaged. On the 21st he was put under the influence of chloroform; our supply of bromine being exhausted, nitric acid was applied by Dr. Weeks. While cleaning off the dead struc-

ture, hæmorrhage occurred from the brachial artery, which was immediately ligated. On the 22d there was a greater discharge of serum than formerly, and a part of the dead tissue was detached, which readily came off. Labarraque's solution was applied, and continued until the 24th, when nitric acid was again resorted to. There was no marked improvement in his general system. His pulse was 78, full; temperature 91°. On the 27th he had slight febrile symptoms; skin dry, tongue moist; no appetite; pulse 112, weak; temperature 88°. His wound was improving; no foetor; the discharge was of a laudable character. A few dark grey spots remained on the muscular tissue; the destroyed subcutaneous and intermuscular tissue came readily away, leaving a clean surface, which was properly cleansed, and compound solution of bromine applied. September 1.—The patient's general health is considerably improved; he is lively, and walks about the room; pulse 66, full; temperature 87°; complexion fair; skin moist; appetite good; his wound is granulating finely; no gangrene; no foetor. Simple dressing was applied. He continued to improve without any intermission, except a slight attack of diarrhoea, which was controlled by astringents, until the tenth, when he was sent to Webster hospital, cured.

This patient received nutritious diet, and stimulants every two hours. His wound was well syringed with warm water every day, care being taken to clean out all the sulci and sinuses that contained destroyed tissue. Oakum was applied, wet with Labarraque's solution, whenever the solution was used. The skin had adhered to the muscles, and cicatrization commenced around the margin of the wound. The interspaces were filled up by granulations, and the patient anticipated returning home in a few days, on furlough.

III.—John Brown, private, Co. K, 99th Ill. Vols., was wounded at Vicksburg on May 2, 1863, in the middle third of the left thigh, by a ball, producing a flesh wound. He was sent to the Union Hospital, where he received proper attention; his wound granulated healthily up to June 22, when gangrene set in. Labarraque's solution of soda was applied, and afterwards the liq. ferri persulphatis was substituted. The gangrene extended, and he was transferred from the Union to Church Hospital, September 1, 1863.

The patient is somewhat emaciated, and his general system debilitated. His mind is depressed; skin dry; complexion sallow; tongue moist; appetite good; pulse 95, weak; bowels regular; sleeps well, and has no pain in his wound. He has gangrene in the anterior and outer aspect of the middle third of the left thigh. The wound measures three inches transversely, and four longitudinally. The cellular and intermuscular tissues are involved. A sulcus is formed around the margin of the wound, one-half an inch in depth, the edges of which are everted, jagged, and extremely sensitive to the touch. The base is covered with a grey, tenacious slough. The wound was well trimmed with the forceps and scissors, the moisture absorbed with a piece of cloth, and the compound solution of bromine was applied by means of a swab into the sulci, and covered with a cloth spread with simple cerate. On the 2d Labarraque's solution was applied, and continued until the 6th, when the compound solution of bromine was substituted. There was no change constitutionally, except that his skin became moist, which heretofore had been dry. The wound gradually improved until the 10th, at which time the parts which had become clean assumed a phagedenic character. The following notes were taken. Patient's mind is more depressed. He says his appetite is good, and he sleeps well. His tongue is moist and clean; skin moist; complexion sallow; bowels regular; pulse 112, of good strength. The wound was properly cleansed, and bromine applied. A cloth spread with simple cerate was placed over the wound, and the whole enveloped with a piece of oiled silk. September 12.—The sloughs came readily off this morning, leaving a clean surface, attended



with no foetor. Labarraque's solution was applied to stimulate the wound, and kept in direct contact with it, by means of oakum well saturated with the solution diluted (one part to eight of water) every two hours. September 13th.—Granulations are abundant throughout the whole extent of the wound. The patient's tongue is moist and clean; appetite good; skin moist; bowels regular; pulse 120, of good strength; temperature of the body 92°. September 16.—The patient is dull and sleepy; is with difficulty aroused, and pays no attention to what is going on around him. He has a harsh, dry cough. There is evident depression on the right side of the chest, which does not expand during inspiration. On percussing the chest posteriorly, there was dullness over three-fourths of the right lung. Auscultation over the dull part reveals tubular breathing, with bronchophony. Sputa is of a gelatinous consistence, but trifling in quantity. Respiration 28 per minute. His tongue is moist; appetite poor; pulse 120, of good strength. Skin dry; complexion sallow; temperature 82°. He does not complain of any pain or tenderness on pressure. September 20.—Respiration quite natural. He says he only feels a little weak, but otherwise is well. His skin is normal; appetite improved; tongue moist; pulse 96, full and regular. Temperature 83°. His wound is granulating, the edges have become adherent, and cicatrization is extending from the edges. He has gone home on a furlough, which he received on the 23d.

(To be Continued.)

## American Medical Times.

SATURDAY, DECEMBER 5, 1863.

### FEDERAL PRISONERS AT RICHMOND.

— "Doomed to famine, shackles, and despair,  
Condemned to breathe a foul, infectious air,  
In sickly hulks, devoted while they lay—  
Successive funerals gloomed each dismal day."

THE report of the surgeons just returned from their imprisonment in Richmond, gives us the first entirely trustworthy account of the condition of the Federal prisoners in that place. Vague rumors have reached the people of the North of the destitution and suffering of their friends and brothers who have unhappily fallen into the hands of the rebels, and the occasional return of small companies, wasted, wan, and dying, has tended to confirm the report. But of the real nature of their privations and miseries we have not before had a reliable statement. The Report was drawn up by a committee appointed at a meeting of the surgeons on board of the steamer on which they returned from Fortress Monroe, and is signed as follows:—DANIEL MEEKER, U. S. V.; O. Q. HERRICK, Surgeon 34th Ill. V.; W. M. HOUSTON, Surgeon O. V. I.; A. J. HERRICK, Surgeon 17th O. V. I.; J. MARCUS RICE, Surgeon 14th Mass. Vols.; JOHN F. LUEK, Assistant Surgeon U. S. Navy; and AUGUSTUS A. MANN, Assistant Surgeon 1st R. I. Cavalry.

In the following extracts we present the more material portions of this important document:—

"The officers, about 1,000 in all, and representing nearly all grades of both branches of the service, are confined in seven rooms of Libby prison—a building formerly used as a warehouse; each room is 43 feet wide and 102 feet long, and affording to each prisoner but about 276 cubic feet of air. The rooms have unplastered walls, partitions, and ceilings; but few of the windows are glazed, being either open to the full sweep of cold winds, or closed with boards or canvass, either of the latter, when used, rendering the

rooms dark and cheerless; one of the rooms is used exclusively as a kitchen and dining-room, while portions of others are necessarily devoted to the same purpose, and but nine scantily furnished and medium-sized cook stoves are supplied the prison; the officers have to do their own cooking, and the supply of wood for this purpose is often insufficient, and occasionally for half a day none at all is sent in. A privy and sink render foul and disgusting one end of each room, polluting at times the air of the entire apartment. None are permitted to leave this building of accumulated and accumulating horrors till borne to the hospital, or happily exchanged. The enlisted men are confined in various places. At the time the Surgeons left Richmond there were about 6,300 soldiers held on Belle Island in James river, near the city, and about 4,000 soldiers and 150 sailors and marines in buildings similar to and in the immediate vicinity of 'Libby.' In the buildings, the condition of the men is about the same as that of the officers in 'Libby,' only they are much more crowded. The condition of those on the island is much worse. An insufficient number of tents are furnished to protect them from the cold and rain, and no blankets or any other bedding have been given them by the Rebels. Only one surgeon is assigned to Belle Island, and he makes but one visit a day, during which he does not enter the inclosure where the men are kept, to see those too sick to walk, but attends to those only who are able to come to him; when the neglected men are sent to the hospital it is often too late. None of the privates in the prisons about 'Libby' are furnished with bedding of any kind. A member of this Committee received a letter from a man belonging to the same command, and confined in the building opposite 'Libby,' worded thus: 'Doctor, we beg of you to try and get us something, either clothes or blankets, to keep us warm; we have no fire in the building to warm us, have nothing either to lie on to cover us, and suffer greatly from the cold.'

"In 'Libby' stoves for heating purposes have recently been put up in some of the rooms, but no fuel of any description has yet been given to render them useful. At one time the rations issued consisted of about three-fourths of a pound of wheat bread, one-fourth of a pound of fresh beef and two ounces of beans, and a small quantity of vinegar and salt for each prisoner per day. Subsequently the same quantity of corn bread made of unsifted meal, and rice instead of beans, were issued in the same quantities, or in lieu of beef and rice two or three small sweet potatoes, and quite often, more particularly within the last two weeks, absolutely nothing except the three-fourths of a pound of corn bread has been issued to each prisoner to satisfy the gnawings of hunger for twenty-four hours. On the 10th of this month the men on Belle Island did not get a meal of anything to eat till 4 o'clock P. M. The Committee unanimously agree that the rations furnished Union prisoners by Rebel authorities at Richmond are not sufficient to prevent the prisoners from suffering from hunger, and thus becoming debilitated, and very susceptible to disease. Some of the Committee have seen men brought from Belle Isle to the prison hospital literally starving to death; and a United States Army officer of high rank and undoubted veracity, then and now a prisoner in 'Libby,' told a member of this Committee that while on a visit to Belle Island recently, whither he went by permission of the Rebels, the prisoners there followed him in crowds as he walked around the inclosure, and cried to him with eager voices, 'We are hungry; send us bread; send us bread.' Were it not for supplies sent from home, none of those confined in Libby, and other prisons, would escape the pangs of hunger."

It appears from this communication that there are about 10,000 prisoners still confined in and about Richmond. Of these 1000 are in a condition to be classed as sick men, and are treated as such. The mortality among this number is rated at the enormous figure of 50 per day or 1500 monthly;

a daily mortality of 5 per 1000, or an annual mortality of 1850 per 1000. The diseases prevalent are diarrhoea, dysentery, and typhoid, the causes of which are found in the treatment to which these wretched men are subjected. They are either huddled together in small unventilated rooms, or exposed, with insufficient clothing, to the inclemencies of the weather. And to these causes of disease must be added that most potent of all, semi-starvation.

It may be said, in extenuation of these barbarities, that the rebels are compelled to treat their prisoners with apparent inhumanity owing to their want of food, clothing, and other necessities; but there are abundant proofs that most of this cruelty is deliberately inflicted. It is asserted in this report that:—

"Officers have been compelled to scrub the floors, clean the water-closets of the prison, and perform other menial services. All are and have been, at all times since their imprisonment in 'Libby,' subjected to insult and brutal treatment on the part of prison subordinates, and the Captain and Inspectors of the prison, when applied to, not only do not rebuke their subordinates, but encourage them to further offensive conduct. Upon the most trivial charges, officers have been confined from twenty-four hours to several days in damp dungeons under the jail, and there fed only on bread and water. An officer, for doing that which certainly did not merit the term offence, was put into one of these dungeon-cells, though at the time convalescent from typhoid fever, and too weak to do anything. Not more than 200 blankets have been given to the prisoners in 'Libby' by the Rebels. Were it not for those received from home and furnished by the Sanitary Commission, all would suffer very much. Twice within the past week the floors of the prison have been scrubbed at sundown, then through the cold night following, with no fire to drive off the moisture, officers must lie on those disease-engendering floors, or walk the floor till morning brought relief by bringing sunlight. On two other occasions, the floors were scrubbed nearly half an hour before the officers were ready to arise from their beds, and thus in various ways do the authorities seek to make our condition not only uncomfortable but dangerous."

The report of the released surgeons will form a most melancholy chapter in the history of this war. Fearful as has been the sacrifice of life on the battle-fields, it appeals less to our sympathy than the suffering in the prison-house of Richmond. In striking contrast with the inhumanity of the Rebel authorities in their treatment of prisoners, is the conduct of the Federal Government. All prisoners are provided with food and clothing in abundance, and the sick have the kindest ministrations of our hospitals. No word of taunt, or jest, or reproof is spoken, but they are treated with all the tenderness that paternal affection can bestow on erring children. The Rebel prisoners return fat and well clothed, ready to do efficient service again against their rightful Government.

### THE WEEK.

THE Provost-Marshal General has issued a revised list of diseases and infirmities which disqualify for military service, and for which drafted men are to be rejected as physically or mentally unfit for the service. This revision renders the list much more complete than heretofore. Much is still left to the discretion of the examining surgeon, but as compared with former lists of causes of exemption from physical disability, it is a great improvement.

WOMEN nurses in U.S. General Hospitals have proved a

failure, except in a few isolated instances. The failure is due to the want of properly educated and thoroughly devoted women adapted to this work. The Sisters of Charity is the only organization that have as yet, in our military hospitals, succeeded in utilizing women's labor. Miss Dix still continues to exert herself to introduce women into hospitals, but with only partial success. A recent order of the Secretary of War still gives her full power to assign women to hospitals, but it is doubtful if anything useful will result until women are thoroughly trained to this special work.

## Correspondence.

### INTERNATIONAL SANITARY COMMISSION.

(To the Editor of the AMERICAN MEDICAL TIMES.)

A MONTH ago (Oct. 26th, 27th, 28th, and 29th), there was assembled at Geneva, Switzerland, an International Conference, the character and purposes of which are significant of the progressive civilization of the age, and humane spirit and life-saving mission of the medical profession. At that Conference, entitled a "*Conference Internationale pour étudier les Moyens de Pourvoir à l'Insuffisance du Service Sanitaire dans les Armées en Campagne*," were gathered the following distinguished delegates from the various nations of Europe:—

M. le docteur UNGER, from Austria (Surgeon-in-Chief of the Austrian Army).

Surgeon-in-Chief STEINER, from Baden.

THEO. DOMPIERRE, from Bavaria.

DON N. A. C. LANDA, from Spain.

BOUDIER, from France.

M. de REVAL, from France.

M. CHEVALIER (Consul), from France.

DR. RUTHERFORD (Inspector-General of Hosp.), from England.

MR. MACKENZIE (Consul), from England.

DR. OELKER, from Hanover.

MAJOR BRODRICK, from Hesse.

M. CAPELLO (Consul), from Italy.

PRINCE HENRY XIII., from Prussia.

DR. LÖFFLER, from Prussia.

DR. G. HOUSSELL, from Prussia.

DR. BASTING, from Holland.

CAPT. VAN DE VELDE, from Holland.

DR. GUNTHER, from Saxony.

CAPT. ALEX. KIRBY, from Russia.

M. E. ESSAKOFF, from Russia.

DR. SKOLDSBERG, from Sweden.

DR. EDLING, from Sweden.

DR. HAHN, from Wurtemberg.

DR. WAGNER, from Wurtemberg.

M. F. DE MONTMOLIN, from Switzerland.

DR. LEHMANN, from Switzerland.

DR. BRINER, from Switzerland.

M. F. DE G. MONTMOLIN, from Switzerland.

PROF. LANDOZ, from Switzerland.

M. MORAT, from Switzerland.

DR. ENGELHARDT, from Switzerland.

M. M. GENERAL DUFOUR, President.

HENRY DUNANT, Secretary.

These distinguished delegates assembled at Geneva, bearing official credentials from the chief authorities of the nations and departments of public service they represented, and after days of discussions, the full reports of which have not yet reached us, they put forth the following embodiment of the conclusions they had reached in conference. We quote from a copy just received from M. DUNANT, the Secretary.

"The International Conference, desirous to render aid to the wounded in those cases where the army sanitary service is insufficient, adopted the following resolutions:

"1. That in each country there exist a committee whose mission is to assist in time of war, if it is required, in providing by all the means in its power for the sanitary wants of the armies. The committee will organize itself in such manner as shall seem most useful and convenient.

"2. Sections, without limit in number, may be formed for the purpose of aiding this committee, and which shall act under its general direction.

"3. It shall be the duty of the committee to place itself *en rapport* with the government of its own country, in order that its service may be received, if there is need.

"4. In time of peace the committees and the sections shall look for the best means for rendering themselves really useful in time of war, especially in preparing material help of all kinds (*secours matériels de tout genre*), and in endeavoring to form and instruct volunteer nurses (*infirmières volontaires*).

"5. In the event of war the committees of the belligerent nations shall furnish, according to their means, relief (*secours*) to the respective armies; their particular duty is to organize and set at work the volunteer nurses (*infirmiers volontaires*), and to prepare, in accordance with the military authority, the places in which the wounded shall be attended.

"They may solicit the co-operation of the committees of neutral nations.

"6. Upon application and with consent of the military authorities, the committees shall send the *infirmiers volontaires* upon the battle-field; they shall, at such times, be under the direction of the chief military commander.

"7. The *infirmiers volontaires* who follow the army must be provided by their respective committees with all necessary means for their sustenance.

"8. That, in every country, they wear as uniform, a white band (?) upon the arm (*brassard*) with a red cross.

"9. The committees and sections of the various countries may assemble an International Congress to communicate the results of their experience, and to consult upon the measures to be pursued in the interest of the work.

"10. The exchange of communication between the committees of the several nations shall be provisionally made through the committee at Geneva.

"Besides the above resolutions, the Conference expresses the following wishes:

"A. Let the governments grant their highest protection to the committees of relief which shall be formed, and facilitate as much as possible the fulfilment of their mission.

"B. Let neutrality be proclaimed, in time of war, by belligerent nations, for the ambulances and the hospitals, and let it be equally admitted, in the most complete manner, for the personnel of the sanitary staff (*personnel sanitaire officiel*), for the *infirmiers volontaires*, for the country people who may go to assist the wounded, and for the wounded themselves.

"C. Let a uniform distinctive badge (*signe*) be recognized for the sanitary corps of all armies, or at least for the persons of the same army who are attached to that service. Let a uniform flag (*un drapeau identique*) be also adopted for ambulances and hospitals in all countries."

Though this remarkably harmonious and earnest conference of the international delegates of Geneva is a spontaneous movement of great-hearted men, who have sought the approbation of their respective governments in behalf of the claims of humanity and Christian civilization, we may thank God that the bloody fields of our national struggle, and the successful example of the Sanitary Commission of our army, have served to hasten and to confirm the wise deliberations of the international delegates who have just closed their conference at Geneva.

In a recent number of Dr. Henri Favre's "*La France Médicale*," the moving spirit in originating the Geneva conference, and the confirming example of the feasibility of the proposed work, are thus mentioned:—"In our day," writes Dr. Favre, "every well inspired word is treasured up (*est recueillie*). M. Dunant, therefore, has not preached in vain; and as a proof, we have the application which has just been made of this all-spontaneous creation. It is in America that this idea has become practical," etc.

The gentleman, M. Dunant, who set on foot this humane movement in Europe, was following the lines of the belligerent armies in the Italian campaign; and at Solferino he found such scenes of war as he attempted to pass over that field while yet the smoke of the battle lingered, that he turned and set himself to the work of instantly organizing an impromptu corps of *infirmiers volontaires*. The record of that timely and merciful work is in the hearts of the multitude of mutilated sufferers, who, but for the succor which that noble man and his obedient helpers rendered, would not now be able to recount the scenes of that memorable battle-field. And the excellent men who have so promptly and so emphatically responded to the demands of humanity in not only mitigating the horrors of such fields of blood, but in a practical advocacy of the sacredness of human life, have joined in a movement that shall soften the very passions of war, and help to remove its causes.

Yours, &c.,  
ELISHA HARRIS.

NEW YORK, Nov. 30th, 1863.

## GYMNASTIC TRAINING FOR THE SOLDIERS.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—One of the chief objects I had in view in my recent European tour, was to obtain information that might be useful in the conduct of our present civil conflict. Much of this has been already communicated through the medium

of your columns and other channels; this, however, constitutes but a small part of the material collected; and I propose, with your consent, to present to your readers from time to time, such other facts and considerations as seem to have a practical interest and bearing at the present time.

During my residence in London I attended a lecture at the "Royal United Service Institution" (May 23, 1862), delivered by ARCHIBALD MACLAREN, Esq., Principal of the Gymnasium at Oxford, on "*The Value of a Gymnastic Training to the Soldier*." Deeming the subject, as well as the remarks of Mr. M., of very high importance, I took very full notes; but having subsequently requested a copy of the lecture from the author, should it be published, in order to embody some of its facts and statements in some of my letters, Mr. M. has been so kind as to furnish me one, and you will doubtless oblige many of your readers by quoting the concluding remarks and "Tabular Statement of Measurements" (pp. 8, 9, 10, 11, 13). It may, perhaps, also be well to state that gymnasia have been recently established in connexion with all the military barracks in Great Britain, under teachers who have been expressly trained for the purpose by Mr. MacLaren, the most accomplished instructor, undoubtedly, in this department in the kingdom. Would it not be well to have gymnasia established in all our "Camps of Instruction," as well as among all our regiments, where the soldiers should be regularly drilled in these, as well as the usual manual exercises; which, although essential, are not calculated to develop the entire system of muscles, and the greatest bodily efficiency and endurance.

Yours, etc.,

CHARLES A. LEE, M.D.

PERKESKILL, Nov. 29, 1863.

"Many years ago I instituted in my gymnasium at Oxford a series of measurements, by which I could ascertain the state of the development of all pupils at the commencement of their instruction, and, these measurements being repeated at given intervals, I could know the rate of their advancement. The revelations made by this system of periodic measurements have been such, as to sustain me in devoting my entire energies to the completion and extension of my system of exercise. I find that to all, child or adult, weak or strong, it gives an impulse, a momentum to the development of his resources, which nothing else can give;—and which nothing can take away, because it is not a thing acquired, a mere mental or physical acquisition; it is the man altered, the man improved, the man brought nearer to the state he was designed to hold by the nature of his organization.\*

"But the question will naturally present itself, Would the same results be obtained from a similar system of bodily exercise by the men who fill the ranks of our Army as by the youths passing through our Universities? I think the statements which I have now to make, will satisfactorily answer this question.

"The first detachment of non-commissioned officers, twelve in number, sent to me to qualify as instructors, were selected from all branches of the service. They ranged between nineteen and twenty-nine years of age—between five feet five inches and six feet in height—between nine stone two pounds and twelve stone six pounds in weight—and had seen from two to twelve years of service. I confess I felt greatly discomfited at the appearance of this detachment, so different in every physical attribute; I perceived the difficulty, the very great difficulty, of working them in the same squad at the same exercises, and the unfitness of some of them for a duty so special as the introduction of a new system of bodily training into the army—a system in which I have found it necessary to lay down as an absolute rule, that every exercise in every lesson shall be executed in its perfect form by the instructor, previous to the attempt of the learner; knowing from experience

\* A few of these results I have made known in a paper read by me at the meeting of the British Association at Oxford two years ago, and since published in "*Macmillan's Magazine*," Nov. 1860.—A. M.

how important is example in the acquisition of all physical movements, and how widely the exercises might miss of their object if unworthily represented by an inferior instructor. But I also saw, that the detachment presented perhaps as fair a sample of the Army as it was possible to obtain in the same number of men, and that if I closely observed the results of the system upon these men, the weak and the strong, the short and the tall, the robust and the delicate, I should be furnished with a fair idea of what would be the results of the system upon the Army at large.

"I therefore received the detachment just as it stood, and, following my method of periodic measurements, I carefully ascertained and registered the developments of each at the commencement of his course of instruction, and at certain intervals throughout its progress. A tabular statement of these measurements will appear, I believe, in the forthcoming blue book, as they were furnished by me to Dr. Logan, the Inspector-General of Hospitals, with whom I have had the pleasure to be associated on the Committee appointed to consider the question of the introduction of these exercises into the Army; but I may here mention that the effects were beyond my most sanguine hopes, and equal to any precedent among the youths in those higher positions of life among whom my observations had been hitherto chiefly made. The muscular additions to the arms and shoulders and the expansion of the chest were so great as to have absolutely a ludicrous and embarrassing result, for before the fourth month several of the men could not get into their uniforms, jackets and tunics, without assistance, and when they had got them on they could not get them to meet down the middle by a hand's breadth. In a month more they could not get into them at all, and new clothing had to be procured, pending the arrival of which the men had to go to and from the gymnasium in their great coats. One of these men had gained five inches in actual girth of chest.

"Now, who shall tell the value of these five inches of chest—five inches of additional space for the heart and lungs to work in? There is no computing its value, no power of computing it at all; and, before such an addition as this could be made to this part of the body, the whole frame must have received a proportionate gain. For the exercises of the system are addressed to the whole body, and to the whole body equally, and before this addition could be made to the chest every spot and point of the frame that you could touch with the tip of your finger must be improved also; every organ within the body must be proportionately strengthened.

"But I tried another method of recording the results of the exercises. I had these men photographed naked to the waist shortly after the beginning of the course and again at its close; and the change in all, even these small portraits, is very distinct, and most notably so in the youngest, a youth of nineteen, and, as I had anticipated in him, not merely in the acquisition of muscle, but in a readjustment and expansion of the osseous framework upon which the muscles are distributed.

"But there was one change—the greatest of all, and to which all other changes are but means to an end, are but evidences more or less distinct that this end has been accomplished—a change which I could not record, which can never be recorded, but which was to me, and to all who had ever seen the men, most impressively evident—and that was the change in bodily activity, dexterity, presence of mind, and endurance of fatigue; a change, gentlemen, a hundredfold more impressive than anything the tape measure or the weighing chair can ever reveal.

"The results upon the second detachment of instructors whom I am now qualifying are equally satisfactory, but more uniform, the men having been more specially selected.

"Up to this point, gentlemen, I have spoken but of the beneficial results of exercise as affecting the man, without special reference to his professional duties as a soldier; and

I have done so purposely, because you will in a moment see that the power of the man and the serviceability of the soldier are inseparable conditions. Our embodied idea of energy, activity, and strength is the soldier, these qualities trained to, made subservient to, the exigencies of his profession; and these qualities are the inevitable results, the incontrovertible results, of that system of bodily training which I advocate, because the system itself is based upon, and all its directions are in accordance with, the natural laws which govern the growth and development of the human body. Endow a man with these qualities, therefore, and you endow him with the power of overcoming all difficulties against which such qualities can be brought to bear, against all difficulties requiring strength, activity, energy, dexterity, presence of mind, tenacity, and endurance. You cannot limit a high qualification to a single use any more than you can limit the purpose to which a good coin may be applied; it will fetch its value anywhere and in anything. And so will strong muscles and sound lungs—in garrison, in camp, or on camping, on the march, in the field, in the transport, in the hospital, on any service, in any climate.

"But, although we cannot limit the use of a qualification, we can very readily give to it a special direction by special care, and make it more distinctly valuable for special purposes. And this is emphatically the case with the application of the powers acquired by gymnastic training to the duties of the professional life of the soldier. Indeed, as will be seen by the published book of the system, this is the ultimate aim and object of every exercise in it, and this is clearly inculcated and steadily kept before the learner throughout his instruction. And the last course in the system consists exclusively of the practical application to a professional use of all that has gone before, teaching the soldiers how to overcome material obstacles of every form, position, and character, surmountable by walk or run or leap or vault or climb, with implements and with arms, singly and self-dependent, or with comrades rendering and receiving mutual assistance.

"Therefore the question which I have advanced, 'Do the exigencies of a soldier's life require or render valuable the possession of great physical resources?' I will not further answer, because the answer is apparent on the face of the question itself, and the question was only put to emphasize the importance of the subject to which it refers. I feel it would be unbecoming in me further to enlarge upon this subject before professional men, acquainted by life experience with all the forms in which the exigencies of the soldier's profession make daily, hourly claim upon his physical resources, and who know that health and strength are the essence of the soldier's power.

"Nor need I repeat here, because they must be familiar to you all, the startling statistics which show the small percentage of men who fall by the weapons of the enemy, in comparison to those who succumb to the demands made upon their bodily energies. For the one enemy in his own form which the soldier has to encounter, there are a hundred lurking around him unseen, in the form of sufferings which originate in the manifold trials of his professional life. He cannot stand the heat, or he cannot stand the cold; he cannot stand the terrible exertion and excitement of the struggle, or he cannot stand the monotony of the camp and wearisomeness of the march; he cannot subsist on the scanty and ill-prepared rations; he cannot bear up against the broken and insufficient rest. Against his single human foe we put into his hands the most perfect weapon invented—I might almost say inventable—by man; against the other foes that lurk in this path, awaiting him at every turn, there is but one protection—to strengthen the soldier himself.

"In conclusion, I would merely remark, that while this is applicable to the soldiers of every country, how much more so—with how much greater force—does it apply to our own, who have to pass from station to station over the whole world, who have to endure the extremes of every

climate, from the almost arctic cold of Canada to the tropical heat of Africa and the Indies? If physical energy and constitutional strength be the essence of power in the soldiers of any other nation, they must be so with strange distinctness in those of ours, who have to exercise their profession over almost every country on the face of the globe, and to endure the hardships, the fatigues, the discomforts of them all.

"In this paper I have spoken only of the physical advantages which the soldier would derive from a systematic bodily training, but its value in a moral point of view would be almost as great, as evident, and would be assured by the natural action of laws as plain as those which regulate his material improvement. I do not allude merely to the filling up healthfully, pleasurably, and profitably of his spare time—I do not allude merely to the evidence which it would set before him of how health and strength are gained, and how they are lost, and of the immeasurable advantages which the possessor of these qualities has, in every situation of life, over the man who has them not—I allude to the well-known physiological fact, that active bodily exercise has the direct effect of checking that desire for stimulants and excitements and sensuous indulgences, which sap and undermine the constitution, and wear out the soldier's frame, and which arises, not so much from any physical want, or for the natural gratification of any legitimate physical desire, as from a nervous irritability and craving, that become the stronger the more they are indulged, and the strength and force of which are usually in an inverse ratio to the bodily strength and power of the individual—in an inverse ratio to his ability to indulge in them with impunity."

## Obituary.

### MORTIMER G. PORTER, M.D.

DR. PORTER was a native of Skaneateles, Onondaga Co., New York. He was the son of Dr. E. H. PORTER, and grandson of the late Dr. DANIEL PORTER, both of that town. He was a graduate of the *Buffalo Medical College* at the session 1849-50. After receiving his medical degree, Dr. PORTER became one of the Assistant-Physicians to the State Lunatic Asylum, where he remained several years. On leaving the Asylum he located in New York, and entered upon the practice of his profession. He connected himself with the North-Western Dispensary, then just established, the prosperity of which he labored diligently to promote. Dr. P. was a member of the Academy of Medicine and Pathological Society. He was ardently devoted to his profession, and warmly attached to his patients. He contracted fever in his practice, of which he died at the early age of 37. He left a wife and child. His remains were removed to his native town for interment.

## Army Medical Intelligence.

(CIRCULAR No. 25.)

WAR DEPARTMENT, ADJUTANT GENERAL'S OFFICE,  
Washington, November 4, 1863.

GENERAL ORDERS, No. 355.—Medical Directors of Armies in the field will forward, direct to the Surgeon-General, at Washington, duplicates of their reports to their several Commanding Generals of the killed and wounded, after every engagement.

By order of the Secretary of War:

(Signed)

E. D. TOWNSEND,  
Assistant Adjutant General.

SURGEON GENERAL'S OFFICE,  
Washington, Nov. 11, 1863.

To carry out the intentions of the above order, Medical

Directors of Armies in the field will detail suitable officers, who will, under their instructions, collate and prepare for transmission to this office all obtainable statistics and data in connexion with past and future operations of those armies, which may be essential or useful in the history of the War. Particular attention is called to the following points:

The morale and sanitary condition of the troops, condition and amount of Medical and Hospital supplies, tents, ambulances, &c.; the points at or near the field where the wounded were attended to; degree of exposure of wounded, to wit: cold or heat; adequacy of supplies of water, food, stimulants, &c.; mode of removal of wounded from the field to field hospitals: to what General Hospitals the wounded were transferred—by what means and where; the character and duration of the action, nature of wounds received, &c. When practicable, separate casualty lists will be made of commissioned officers, non-commissioned officers, and privates.

The attention of Medical Officers is earnestly directed to the importance of this subject; without their co-operation no reliable record can be preserved—the vast experiences of the past will remain with individuals, and be lost to the service and the country.

J. K. BARNES,

Medical Inspector General, Act. Surg. Gen.

### ORDERS, CHANGES, &c.

The following assignment of Medical Officers has been made:

Surgeon Charles H. Laub, U.S.A., now awaiting orders in Washington, D.C., to relieve Surgeon Ebenezer Swift, U.S.A., in his duties as member of the Retiring Board at Wilmington, Delaware, of which Major-General McDowell is President.

Surgeon Swift, when relieved, to proceed without delay to the Department of the South, to relieve Surgeon H. R. Wirtz, U.S.A., as Medical Director of that Department; the latter, on being relieved, to proceed to New York city, and report by letter to the Surgeon General, U.S.A., for assignment to duty.

The Hospital Examining Board, convened by Special Orders, 414, September 15th, 1863, from the War Department, and of which Lieutenant Colonel S. H. Lathrop, Assistant-Inspector General, 2d Army Corps, is President, will proceed without delay to inspect and report upon the United States General Hospitals, at the following cities:—Harrisburg, Pennsylvania; Philadelphia, Pennsylvania; New York city and vicinity; Cincinnati, Ohio, and vicinity; Louisville, Kentucky, and vicinity; St. Louis, Missouri, and vicinity; Chicago, Illinois, and vicinity; Mount City, Illinois; Cairo, Illinois.

They will also inspect and report upon the manner of forwarding convalescents from these Hospitals to their regiments, and present such suggestions as may tend to facilitate their return.

The following officers, having tendered their resignations, have been honorably discharged the service of the United States, on account of physical disability, with condition that they shall receive no final payments until they have satisfied the Pay Department that they are not indebted to the Government.

Surgeon James Norval, 79th New York Vols., to date June 13, 1863.

Assistant-Surgeon Wallace D. Martin, 62d Penna. Vols. (published officially October 19, 1863), having failed to appear before the Military Commission, instituted by Special Orders No. 68, from the War Department within the prescribed time, the President directs that he be dismissed the service of the United States, for desertion, to date September 28, 1863.

The following Medical Inspectors, U.S.A., now on duty with the Armies constituting the Military Division of the Mississippi, will at once report by letter to Major-General Grant at Nashville, Tenn., for assignment to duty:—Lieutenant-Colonel Charles C. Keeney, Lieut.-Col. Edward P. Vollum, Lieut.-Col. George T. Allen, Lieut.-Colonel Lewis Humphreys, Lieut.-Col. John E. Summers.

Leave of absence for fourteen days has been granted Assistant-Surgeon F. Denicke, 80th and 82d New York Independent Batteries.

The following officers will report in person, without delay, to the Commanding-General of the Department of the South, for assignment to duty:—Assistant-Surgeon John F. Huber, U.S.V.; Assistant-Surgeon Henry M. Kirk, U.S.V.; Assistant-Surgeon Charles H. Hood, U.S.V.

The resignation of Surgeon William S. Forbes, U.S.V., has been accepted by the President, to take effect November 20, 1863.

Assistant-Surgeon A. M. Sigmund, U.S.V., recently appointed, will report in person, without delay, to the Commanding Officer of Camp Douglas, Illinois, for duty.

Assistant-Surgeon Ira Brown, 65th Illinois, will proceed without delay to join his regiment.

Assistant-Surgeon Milton J. Bowland, supernumerary officer of the 71st Ohio Volunteers, has been honorably mustered out of service.

Stillman Witt of Cleveland, Ohio, is hereby appointed a Special Inspector, to visit the hospitals at Port Royal and Hilton Head, and will report to the War Department. The Assistant-Quartermaster at New York will furnish Mr. Witt, his wife and daughter, with transportation on a Government transport to and from Hilton Head.

So much of Special Orders No. 417, current series, from the War Department, as relates to Assistant-Surgeon W. F. Funderberg, 17th Pennsylvania drafted Militia, has been rescinded, and Surgeon Funderberg is hereby mustered out, and honorably discharged the service of the United States, as of the date his regiment was mustered out.

## Original Lectures.

### LECTURES ON THE MORBID CONDITIONS OF THE BLOOD.

DELIVERED AT  
THE BELLEVUE HOSPITAL MEDICAL COLLEGE.

PRELIMINARY TERM, SESSION OF 1863-4.

By AUSTIN FLINT, M.D.,

PROF. OF THE PRINCIPLES AND PRACTICE OF MEDICINE.

#### LECTURE VII.

*Matter of Contagion.—Viruses.—Venoms.—Infectious Miasms.—Poisons, Palpable and Impalpable.—Zymotic Conditions.—Considerations which lead to the Inference of the Prior Existence of a Constitutional or General Morbid Condition, or Indeterminate Blood-Changes in various Local Affections.*

Of morbid conditions of the blood induced by morbid products originating within the bodies of the persons affected, that is, intrinsic products, there are doubtless many in addition to those which have been noticed. We do not possess demonstrative or even inferential knowledge of the different kinds of these morbid products existing in the blood, the sources whence they are derived, the manner of production, etc. We only know by means of clinical observation some of the circumstances under which they originate, and the phenomena to which they give rise. These belong to what may be called the indeterminate morbid conditions of the blood. Deferring for the present the consideration of these, the morbid conditions of the blood induced by morbid products derived from other bodies, and those induced by extrinsic matters other than morbid products, claim attention. Morbific substances, of various kinds, developed exterior to the body, *i. e.* extrinsic, may gain access to the blood and give rise to disease, either directly by their immediate action on one or more parts to which they are transported in the blood, or, indirectly, by occasioning morbid changes in the blood itself.

In this category are embraced morbid matters which constitute contagion. A material substance is, of course, transported from one person to another whenever a disease is communicated. An appreciable substance is conveyed when diseases are produced by inoculation, but the quantity is impalpable and inappreciable when they are involuntarily or imperceptibly communicated. In the latter case the matter is probably received with the inspired atmosphere. The matter of contagion is distinguished as *virus*. It is convenient to limit the application of this term to matter which is palpable or appreciable. When the material substance consists of emanations which are not apparent to the senses it belongs among the morbid matters distinguished as *miasms*. The terms contagion and infection have been used with not a little confusion as regards the relative signification of each. It would be convenient to restrict the term contagion to a palpable morbid product or virus, and the term infection to an impalpable emanation or miasm. With this use of the term some diseases are contagious and not infectious, for example syphilis; some are both contagious and infectious, for example small-pox; and some are infectious but not contagious, for example pertussis or whooping-cough.

Each contagious or infectious disease has its own peculiar and specific morbid product. The virus of small-pox, the miasm of scarlatina, for example, produce respectively these two diseases and no other forms of disease. And in this fact we have a grand criterion of the special character of a disease, and of determining the identity or non-identity of diseases which may have more or less phenomena in common. Typhus and typhoid fever, for instance, are considered by some identical and by others non-identical. Now if it be conclusively shown that the infectious miasm

of typhus gives rise always to this form of disease and never to typhoid fever, and, conversely, that the infectious miasm of typhoid fever gives rise to this disease and never to typhus, we have the best evidence that they are not one disease but two distinct diseases.

Of the nature of the virus of contagion or the miasm of infection, in other words, in what consists the faculty of producing a particular form of disease, and of giving rise to actions by which it is reproduced, we have no positive knowledge. The hypothesis now generally entertained, and most consistent with our present knowledge, is, that the matter of contagion and infection, received into the blood, acts as a ferment, exciting in the blood certain processes on the principle of catalysis. The grounds for this hypothesis are the minute amount of matter required, and the occurrence of an interval of days or weeks between its introduction into the system and the development of morbid phenomena. Diseases supposed to be thus produced are distinguished as *zymotic*, a term introduced by the Registrar-General of Great Britain, Mr. Farr. All diseases communicable by contagion or infection are considered as *zymotic*, and also, as will be seen presently, certain diseases which are not communicable.

An extrinsic morbid product, giving rise to a morbid condition of the blood, may come from an inferior animal. Hydrophobia is thus derived from the dog or cat, and glanders from the horse. Disease in man may also be produced by the introduction into the blood of a healthy product derived from an inferior animal. Such a product is not a virus but a venom. Venomous animals are those which produce, physiologically, a product which, received into the system of man, or another animal, gives rise to disease.

Morbific substances, not of the nature of virus nor of venom, are, strictly speaking, poisonous. These are derived from the mineral and vegetable kingdoms. Their morbid effects are, in general, proportionate to the quantity of poison received into the system. Here is a striking point of difference as contrasted with viruses and venoms. The morbid effects of the latter bear little or no proportion to the amount received. The effects of some poisons are cumulative; that is, they are manifested suddenly, as it were by a kind of explosion after the quantity has increased to a certain amount. Lead, for example, may be taken into the system for a long period without any manifestation of morbid effects; but, at length, when the accumulation has reached a certain point, its poisonous results are suddenly declared.

Extrinsic poisons are palpable and impalpable. Palpable poisons admit of examination, and their source and nature are understood, but not always their mode of operation. Impalpable poisons belong among the miasms. The physical and chemical characters of these have not been ascertained, and their sources are not always known.

The palpable poisons are numerous. Their study constitutes an important branch of scientific inquiry called *toxicology*. Examples of the palpable poisons are arsenic, lead, mercury, prussic acid, etc., etc. It is now generally admitted that they act by getting into the blood, not by means of sympathetic influences propagated from the part with which they first come into contact as was formerly supposed. They offer marked differences as regards the gravity of their effects. Some are quickly fatal in a small quantity, as prussic acid, strychnia, aconite, etc. Others act more slowly and with less virulence, as mercury, lead, etc.

The effects of extrinsic poisons are manifested in different parts of the body. Certain poisons exert effects on particular parts. Thus, alcohol and opium exert their effects on the brain; arsenic and oxalic acid on the heart; strychnia, woorara, and conia on the spinal cord; mercury on the mouth; lead on the muscles, etc. Many, however, act simultaneously on a greater or less number of parts. As regards their effects on the blood, some are merely mixed or in solution, and act directly on parts to which they are carried in the circulation. Oxalic acid, arsenic, mercury, lead, prussic acid, alcohol, etc., have been discovered in the



blood. In other instances chemical combinations take place in the blood. A striking illustration of this is offered by one of the experiments of Bernard. Emulsine and amygdaline are not poisonous separately, but they combine and form prussic acid. Injected separately into the veins in different animals they do no harm. If, however, they are successively injected into the veins of the same animal they combine in the blood to form prussic acid, and the animal dies as if struck by lightning. On the other hand, the blood presents certain combinations which take place readily out of the body. An experiment of Bernard illustrates this fact. Cyanuret of potassium and lactate of iron in combination form prussian blue. Injected successively into the veins they do not combine in the blood, but the combination takes place and prussian blue is formed after both have entered the urine or within the intestinal canal.

Examples of impalpable poisons are the miasms giving rise to the periodical fevers, epidemic cholera, cholera infantum, epidemic dysentery, yellow fever, etc. All the extrinsic causes of disease which are special in their character, and not of the nature of virus or venom, belong among the miasms. By the term special is meant causes each of which produces exclusively a particular disease. Now the existence of a special cause, as just defined, may be inferred from the special character of a disease. Whenever, therefore, the special character of a disease is established we may attribute it to a toxical origin. All endemic and epidemic diseases have a special character; in other words, the events which make up the clinical history of each are so definite and are regulated by such fixed laws that they undoubtedly proceed from special causes, which it is certain are produced, not within but without the body. These special causes are not of the nature of virus or venom; they are impalpable or miasms. But their nature and source are very imperfectly known, nor does our present knowledge enable us to understand the morbid conditions of the blood which they occasion. Of course these morbid conditions and the special causes differ in the instance of each epidemic or endemic disease. The condition of the cause in yellow fever, for example, cannot be the same as in epidemic cholera, in view of the differences as regards the phenomena of laws between these two diseases. The position of existing knowledge is the same with respect to poisonous as to infectious miasms. The most rational proposition as regards both is, that they give rise to the morbid conditions of the blood by a catalytic action. But there is this striking point of contrast between the operation of poisoning miasms and the matter of contagion and infection:—Poisonous miasms do not lead to a reproduction by the processes of disease, of the poison, and, hence, the diseases to which they give rise are not communicable.

With the foregoing view, diseases due to poisonous miasms belong among those which are distinguished as zymotic. Thus the class of zymotic diseases embraces all which are contagious or infectious, endemic and epidemic.

The morbid conditions of the blood, so far as they are at present known to the pathologist, have now been passed in review. It is evident that our existing knowledge is very incomplete. Were all the morbid conditions of the blood fully understood there is reason to believe that we should have the thread guiding us through the labyrinth of pathology. This knowledge would probably elucidate the greater part of the morbid conditions of the solid structures. The most rational view of the source of disorders referable to the circulation, the various secretions and excretions, nutrition, together with morbid states of the muscular and nervous systems, is, that they proceed often if not generally from blood-changes. The blood offers at the present moment a most interesting and promising field for the scientific inquirer. It is here that important discoveries are to be made which will shed light on the nature and source of diseases now imperfectly understood. In view of the physiological relations of the blood, and what has been already ascertained respecting its pathological relations, it is safe to

prophecy that future revelations in pathology are mainly to come from analytical and experimental researches in this direction.

The remark has been already made that the existence of numerous morbid conditions of the blood may be logically inferred, although, with our present knowledge, they cannot be demonstrated. In other words, there are many *indeterminate blood-changes* involved in different diseases. What are the considerations which warrant this conclusion? I shall devote the remainder of this lecture to the answer to this question.

It is a reasonable supposition that all the diseases distinguished as *general*, or *constitutional*, or of *uncertain seat*, involve blood-changes. In fever, generally, if not always, these changes are occasioned by extrinsic morbid matter, either a virus, a miasm, or a poison. But many other diseases evidently involve a general or constitutional pathological condition called a cachexia or a dyscrasia. Now it is more rational to refer this condition to the blood than to any other portion of the body. Exclusive of the blood, there is only one anatomical system sufficiently extensive in its relations to warrant a suspicion of its being the seat of the essential pathological condition in general or constitutional affections; this is the nervous system. But the nervous system, as a generator of force, depends on the blood. Without blood it develops nothing, and its functions are soon lost. Morbid conditions of the blood, voluntarily produced, affect powerfully the nervous system. For example, alcohol injected into the veins produces the phenomena of inebriation, chloroform and ether extinguish sensation, strychnia excites the motor fibres of the spinal cord, woorara paralyses them, etc. These substances exert their effects either by being transported into the blood and acting upon the organs affected, or by means of modifications which they produce in the blood. Clinical observation, moreover, shows that a large proportion of nervous affections is due to prior blood-changes. As between the blood and nervous system, therefore, the essential pathological conditions which constitute the cachexiæ or dyscrasiæ must relate to the former.

Assuming the correctness of the statement just made, it is enough, with regard to any local affection, to show that it is dependent on a general or constitutional morbid condition; in other words, that it involves a cachexia or dyscrasia, to render it probable that it proceeds from a blood-change of some kind. It only remains then to inquire what circumstances authorize the inference that a local affection depends on a general or constitutional condition. The following are grounds for such an inference:—

1. A local affection not due to the action of an appreciable cause, acting on the part affected, is said to be spontaneous. Of course it is not so called with strict propriety. Every affection must have an adequate determining cause. The distinction implied by the term is, that the cause is internal and inappreciable, and the term is used in contradistinction from causes called traumatic. Now the internal determining causes involved in the production of the so-called spontaneous diseases, it is not probable, are exclusively local; they are not generated within the part affected, but, originating within the system somewhere, are brought to bear upon the organs or structures in some particular situation. For example, a person exposed to no obvious cause of disease is attacked with pleurisy; whence comes the internal cause determining this disease? It is reasonable to conclude that the disease is a local expression of some prior, more general morbid condition. Clinical researches have shown this to be true in certain cases in which pleurisy, occurring in the course of Bright's disease, is fairly attributable to the accumulation of urea in the blood. The so-called spontaneity of any disease is presumptive evidence of its being a result of a localization of a morbid condition seated in a movable element of the body, that is the blood. Going no further than the simple fact of a local affection developed without any appreciable local cause, the existence of a blood-change is a logical inference from this fact.

That most local affections distinguished as spontaneous do proceed from some general or constitutional morbid condition, is rendered probable in addition to the consideration just presented, by others which are to follow.

2. Local affections characterized by morbid deposits are, from this fact, rationally attributable to a morbid condition of the blood. The production, for example, of a purulent matter in great abundance, having the property of a virus, in small-pox, or the exudation into the peyerian, solitary, and mesenteric glands in typhoid fever, denote a blood-change proper to each of these diseases. In like manner all the cutaneous eruptions involving morbid products, especially when not due to obvious local causes, in other words, when spontaneous, imply blood-changes. The old medical philosophers, guided by common sense, before the discovery of the circulation, attributed most diseases to the presence of certain *peccant humors* which were to be concocted and expelled before recovery could take place. They regarded the local and general phenomena of diseases as proceeding from the effects of nature at coction and elimination. Morbid processes, therefore, were, in a great measure, conservative. These notions gave way under the influence of an exclusive solidism developed and fostered by the study of morbid anatomy, which is occupied, not with morbid actions but their results; disease itself was overlooked, the attention being engrossed with its effects. But in the ancient common-sense notions lies the germ of a true pathology, as modern researches are constantly exemplifying more and more. With our present knowledge the old humoral doctrine is, in the main, applicable to the diseases which have been named; and its application may be extended to other diseases characterized by morbid deposits, such as gout, tuberculosis, carcinoma, and perhaps even to certain inflammations attended by the exudation of lymph.

3. Disorders of the different secretions and excretions denote blood-changes. This is true, more especially, of excretions, inasmuch as excreted matters exist preformed in the blood, and are simply eliminated by the excretory organs.

4. The fact of local affections occurring simultaneously or in quick succession in different situations, is evidence of a general or constitutional morbid condition. Examples are, purulent formations in pyæmia, tubercle deposited in various organs, cancer, etc. Shifting of the location of the local manifestations of disease, as in acute articular rheumatism, is another point of evidence.

5. The occurrence of a local affection on the two lateral sides of the body, and a correspondence of the affection of the two sides as regards the character of the affection, its situation, extent, etc., constitutes a very strong point in evidence of a constitutional morbid condition involving a blood-change. A striking law of symmetry characterizes certain diseases. They may be distinguished as symmetrical diseases. Examples are various cutaneous diseases, articular rheumatism, Bright's disease of the kidneys, pulmonary tuberculosis, etc. We cannot well conceive that the internal determining conditions which give rise to the local manifestations in these diseases are seated elsewhere than in the blood. We may assume it to be a rational conclusion that the essential pathology of all symmetrical diseases pertains to the blood; and the fact that the law of symmetry is exemplified in any disease, suffices to render it probable that it is a blood disease.

6. The *modus operandi*, so far as known, of remedies found to be useful in the treatment of a great number of local affections, shows their source to be in the blood. The remedies referred to are those which act by being absorbed into and modifying the blood. These remedies have been significantly termed *alteratives*. Their immediate effects in the blood are unknown; we can only say that they alter in some way and affect favorably the condition of the blood. Examples are mercury and iodine.

The foregoing are some of the considerations which establish, by logical inference, the general or constitutional

origin of local affections, the nature of the general or constitutional morbid condition being unknown, but consisting, as is rationally probable, in indeterminate pathological changes in the blood. Other considerations which might be adduced are omitted, the aim being, not to enter into a discussion of this topic, but only to present suggestions for your own inquiries and reflections.

## Original Communications.

### THE INFANTILE PULSE IN HEALTH.

By J. LEWIS SMITH, M.D.,

PHYSICIAN TO THE ORPHANS' HOME AND ASYLUM.

AMONG physicians, the world over, the pulse is considered an important aid in determining not only the nature, but also the gravity of diseases. Where the science of medicine is most advanced, and the signs and symptoms of the various pathological states are best understood, it does not have that preëminence as a means of diagnosis, which is accorded to it in less enlightened countries; still there are few physicians, however extensive their medical knowledge, who do not carefully note its frequency and force in all cases of serious sickness.

Since the pulse is considered so important a symptom, and is one so readily observed, it is strange that its character in the healthy infant is not more accurately known. It is true, that some eminent European observers, as Trousseau and Valleix, have published statistics of the infantile pulse in a state of health, but there is such a disagreement of these statistics that it is uncertain which of them or whether any of them affords a correct standard for comparison. Some are unreliable, from the small number of observations; some from the fact that the pulse of the infant is grouped with that of older children; and others because the condition of the infant, as regards its activity or its emotions, is not stated. This last is a serious defect, since the pulse of the infant is in a marked degree accelerated by its movements and passions. My own observations have been arranged in three groups, according to whether, first, the infant were asleep; secondly, awake, but quiet, or exercising slightly, as in nursing; or lastly, in a state of active exercise, or of great excitement, as in crying. It is evident that the separation of the third from the second group is arbitrary, but statistics of this sort do not seem to admit of a better division.

It is evidently desirable to possess a correct standard with which to compare the pulse of the infant, especially in the treatment of obscure diseases; and the idea of making these observations first occurred to me in attending a case of suspected meningitis, in which the diagnosis depended, in a measure, on ascertaining whether the pulse was accelerated.

It is not easy to collect statistics of the healthy infantile pulse: which are free from error, since there are often slight derangements of the system in infancy, not manifested by any marked symptoms, but which produce acceleration of the pulse. Among these derangements may be mentioned mild catarrhal and bronchial affections, and disturbances of the digestive function. It is believed that the following statistics are as free as possible from error from this source. These statistics relate to infants under the age of one year.

#### PULSE OF THE NEW-BORN.

At birth the action of the heart is temporarily arrested. There is a momentary stasis of blood at the centre of circulation, while the direction of the current is being changed. In cases which I have examined in reference to this matter, there has been suspension of the movements of the heart during the interval between the expulsion of the head and body of the infant, and there is usually a period of suspended action after the body is expelled. In a large major-



From the close of the sixth month till the close of the first year:

<i>Asleep.</i>	<i>Awake (quiet, moving slightly, nursing).</i>	<i>During or after active movements, or strong mental excitement.</i>
104	123	123
104	130	144
118	130	152
	140	152
Mean 100	133	156
	132	160
	128	
	124	Extremes 122 and 156
	126	Mean 156
	129	
	127	
	112	
	124	
	121	
	144	
	126	
	116	
	116	
	120	
	123	
	Extremes 112 and 144	
	Mean 127.4	

The average pulse of the healthy infant, according to Trousseau, is 137 in the first and second months, 128 from the third to the sixth month, and 120 from the sixth to the twelfth month. It is seen that his observations agree closely with mine in the second group, and it is probable that he selected only those cases for his statistics in which the infants were awake but quiet. The pulse does not vary greatly in the different months of the first year.

The above statistics show a marked diminution of the pulse, in sleep, except in the first week of life. If we take the pulse of the infant when awake, but quiet, as the standard, there is an average reduction of twenty-one beats per minute from the close of the first week till the close of the first month, thirteen and three-fourths from the close of the first till the close of the third month, twenty-one from the close of the third month till the close of the sixth, and eighteen and two-fifths in the last half of the year. These statistics also show that by the emotions and by active exercise, the pulse may become as rapid as in the gravest diseases. The practitioner should be aware of this, for if not he may often form a wrong idea of the gravity of the disease which he is treating. There is greater acceleration of pulse from the emotions and from movements in feeble than in robust children. The influence of digestion on the pulse of the infant, under the age of one year, cannot be readily ascertained, since, from the frequency of nursing, there is scarcely a moment, during the day, when this function is not actively performed.

#### FOUR CASES OF ASTIGMATISM.

By HASKET DERBY, M.D., BOSTON.

SURGEON TO THE MASS. CHARITABLE EYE AND EAR INFIRMARY.

THE recent valuable paper by Dr. Bumstead, published in this journal, renders it unnecessary for me to go into particulars concerning the nature of the affection known at present under the name of Astigmatism. So few have been the cases of this not uncommon affection reported in this country since the publication of the work of Donders, that a few additional notes on the subject may not be devoid of interest.

A single preliminary word as to the method of expressing the amount of vision possessed by a given patient, and the nature of the sight test alluded to by Dr. Bumstead as "Dyer's Letters."

"Printed letters of a square form, the separate strokes of which have a thickness equal to one-fifth of their height, are in general visible to the normal eye under an angle of five minutes," says Snellen, in the preface to his recently published test letters. On a placard are printed separate lines of isolated letters; the letters in each line of equal size, and severally formed after the above plan. To each line are attached figures, giving the number of feet in

which the letters of that line are visible to the normal eye, under an angle of five minutes.\* The amount of vision (V) in a given case is expressed by a fraction, the denominator of which is the distance (D) in which a given line of letters *should* be seen, the numerator the distance (d) in which they are actually seen.

$$\text{Thus we have } V = \frac{d}{D}.$$

A normal eye distinguishes 20 in 20 feet, then—

$$V = \frac{20}{20} = 1 \text{ the normal standard.}$$

If 20 is seen only in 10 feet, then—

$$V = \frac{10}{20} = \frac{1}{2}.$$

If 100 is seen only in 5 feet, then

$$V = \frac{5}{100} = \frac{1}{20}.$$

An exceedingly convenient method is thus afforded of expressing the amount of vision actually present, as well as of testing the correctness of the answers, by comparing one with another. Thus, if 40 be seen in 20 feet, 30 must be seen in 15 feet, etc.

Now Donders makes us, at the outset, mindful of two things:—First, that in the abnormally astigmatic eye it is very seldom that  $V = 1$ . It is not uncommon to find  $V = \frac{1}{2}$ . Secondly, that a series of lenses of unequal strength seem to leave much the same impression on the eye. It is difficult to elicit an expression of preference,  $\frac{1}{2}$  and  $\frac{1}{4}$  are found equally good. Where the vision is rendered less acute from other causes, the change in strength of the glass produces a much greater effect.

Case 1.—Rev. Mr. J., aged 27, came to me March 12th, 1862. He complained of being unable to see any object with as much distinctness as other people. He had always considered himself near-sighted, and I found in fact that concave glasses improved his vision. With the naked eye he made out 100 in 20 feet; with  $-\frac{1}{16}$ , No. 50, in the same distance, though he noticed very little difference between any of the glasses, from  $-\frac{1}{16}$  to  $-\frac{1}{8}$ . I accordingly ordered him  $-\frac{1}{16}$ . Nov. 3d he came back and informed me that, though with the glasses his sight was "changed," he was unable to say it was improved. Some objects he saw better, some worse than before. The idea of astigmatism occurred to me. I requested him to examine the relative distinctness of vertical and horizontal lines at the distance of 10 feet, those numbered 70 in Snellen's test being selected. It was found that with the naked eye he saw the horizontal sharply defined, while the vertical were blurred and confused; with his concave glass the reverse was the case. A methodical examination with the steno-païc apparatus now gave the following results:—*Right eye.* With the narrow slit held vertically, No. 30 is seen in 20 feet, all indistinctness vanishes. With the same slit held horizontally, no letter on the placard can be made out, but on adding  $-\frac{1}{16}$ , No. 30 is again recognised. *Left eye.*—With the slit in the vertical position, convex  $\frac{1}{16}$ , in the horizontal concave  $\frac{1}{16}$  must be added, in order to make the vision in each of these meridians equal to that of the other eye.

The right eye is therefore the seat of simple myopic astigmatism, with myopia in the horizontal meridian: the left is an instance of compound astigmatism, being hypermetropic in the vertical, myopic in the horizontal meridian, the myopia preponderating. For the right eye a simple cylindrical glass  $-\frac{1}{16}$ , is required; the axis of course being placed vertically; for the left a bicylindrical glass, the one surface convex  $\frac{1}{16}$ , the other  $\frac{1}{16}$ ; the axes of the cylinders being at right angles to each other. Such glasses were ground and furnished the patient, whose delight at seeing

\* A system of letters constructed on this principle was worked out and published by my friend Dr. Dyer, of Philadelphia, before the appearance of Snellen's test in print, though of course some time after Snellen's plan had been brought before the Ophthalmological Congress at Heidelberg.

† For the sake of brevity we adopt the usual fractional method of expressing the strength of a glass. It is perhaps hardly necessary to say that the denominator of the fraction indicates the focal distance of the lens, the distance in which it would unite parallel rays incident upon it. Thus  $\frac{1}{2}$  expresses a convex lens of 8-inch focus,  $-\frac{1}{2}$  a concave lens of 8-inch virtual focus.

clearly and distinctly for the first time in his life, was almost unbounded. Practically the vision was brought from  $\frac{1}{2}$  up to  $\frac{3}{4}$ , by neutralizing the astigmatism.

*Case 2.*—Mrs. A., aged 28, has always had extremely imperfect vision. Concave glasses assist her somewhat, but she has never found a glass that would enable her to recognise people across the street. March 31st of the present year I made an examination, and found that with the naked eye she made out No. 100, with  $-\frac{1}{8}$ , No. 80 in 20 feet. Struck by an amount of amblyopia, so great in comparison with the degree of myopia, I examined with the stenopaic slit, and found the right eye to be myopic  $\frac{1}{8}$  in the vertical,  $\frac{1}{8}$  in the horizontal meridian. The left was myopic  $\frac{1}{8}$  in the vertical meridian, normal in the horizontal. With the astigmatism corrected, the vision of each eye became nearly  $\frac{3}{4}$ . The right eye was ordered a glass, the one surface spherical  $-\frac{1}{8}$ , the other cylindrical,  $-\frac{3}{8}$ . The left eye received a simple cylindrical glass  $-\frac{1}{8}$ . The axes of the cylinders were of course horizontal. With this combination the vision was about doubled, and the patient at once infinitely relieved.

Cases like this, of compound myopic astigmatism, where a different degree of myopia exists in each meridian, are exceedingly rare. Donders has observed but four instances. We are also here reminded of two facts on which the Utrecht professor lays much stress. First, that the correction of astigmatism by cylindrical glasses is often only partial. Secondly, that the meridians of greatest and least curvature do not by any means necessarily correspond with the vertical and horizontal meridians of the cornea itself. In the present instance there was a wide discrepancy.

*Case 3.*—Miss F., aged 21, has always considered herself quite near-sighted, but never found glasses help her. Is strongly convinced that the difficulty is on the increase. The cornea of each eye is found to be decidedly conical, particularly that of the left. No glass enables her with either eye to distinguish a single letter of the test in 20 feet, not even No. 200. It is a source of regret to me that I did not estimate the precise amount of vision; it was, at all events, as the above statement shows, less than  $\frac{1}{16}$ . As the patient was quite unwilling to submit to an iridectomy I bethought me of ascertaining whether the cornea, in yielding, had done so equally in all its meridians. March 25th, an examination was made with the stenopaic slit, the results being as follows:—*Right eye*, in the horizontal meridian, myopia  $\frac{1}{2}$ , vision  $\frac{2}{3}$ ; in the vertical myopia  $\frac{3}{4}$ , vision  $\frac{2}{3}$ . *Left eye*, in the horizontal meridian, myopia  $\frac{1}{2}$ , vision  $\frac{1}{2}$ . In the vertical no combination helps. I ordered for the right eye a lens, the one surface of which was ground  $-\frac{1}{2}$  on a spherical, the other  $-\frac{1}{2}$  on a cylindrical surface. For the left a simple cylindrical glass  $-\frac{1}{2}$ . With this combination her vision is more than quadrupled. From not seeing 200 in 20 feet, she now reads 50 in the same distance. Of course this is only a temporary advantage, and would never be urged as preferable to operative interference in cases of keratoconus, except we were well assured that the process were stationary, and the conicity not excessive. Even then we should be chiefly influenced by cosmetic considerations.

*Case 4.*—Simple hypermetropic astigmatism. Miss A., aged 18, has never seen any distant object distinctly, and never been able to employ herself on a near object for any length of time without the usual symptoms of asthenopia, such as blur, pain over eyes, and headache. There was no insufficiency of the internal recti, and convex glasses did not improve vision, which amounted to only  $\frac{1}{4}$ . I examined the cornea in its different meridians, and found in the right eye, in the vertical meridian, vision  $\frac{2}{3}$ , no glass improves. In the horizontal there was hypermetropia  $\frac{1}{4}$ , vision  $\frac{1}{4}$ . Left eye: in the vertical meridian vision  $\frac{1}{2}$ , no glass helps; in the horizontal hypermetropia  $\frac{1}{4}$ , vision  $\frac{1}{4}$ . I ordered for the right eye  $\frac{1}{4}$  cylindrical, for the left  $\frac{1}{4}$  cylindrical; the axes of the cylinders to be vertical. Vision was then increased from  $\frac{1}{4}$  to  $\frac{1}{2}$ , and the patient enabled to

use her eyes for reading, writing, and the like, as long as she wishes.

The account of these cases thus given is necessarily as imperfect as it is brief; nothing like a strict analysis being here attempted. The latter would of course contain accurate measurements of the cornea itself.

N.B. The glasses above ordered were ground by Paets and Flohr, of Berlin, who promptly responded to my orders. It is hardly necessary, of course, to allude to the importance of their being set in the frame at exactly the proper angle. The remarks of Donders in this connexion are so practical that I translate them entire:—

"In using cylindrical glasses it is of the first importance that the axes of curvature of the surfaces correspond with the principal meridians of the dioptric apparatus of the eye. A trivial departure from this gives rise to considerable trouble, especially when the stronger glasses are used. We can best accomplish this by inserting the glasses, which should be round, in a spectacle frame provided with round eyes. By revolving the glasses the axes of the cylindrical surface may thus easily be brought into the desired position. By slightly moving the whole frame we quickly learn in which direction the glass has got to be revolved, and the test that it has obtained exactly the proper position is that, if the frame be slightly tilted to the one side or the other, the correction becomes less complete, the vision less perfect. If the correct position for round glasses be once found, they can be cut into an oval shape, and set in another frame, the direction of the axes being preserved. From what has been said it is easy to infer that a well fitting frame, and one that keeps well in place, is an indispensable adjunct."

## Reports of Hospitals.

CHURCH U.S.A. GENERAL HOSPITAL, MEMPHIS, TENN.

C. H. CLEVELAND, ACT. ASST. SURGEON U.S.A., IN CHARGE.

REPORT OF FIVE CASES OF HOSPITAL GANGRENE,

By D. C. LLOYD, MEDICAL CADET, U.S.A.

(Concluded from page 268.)

*CASE IV.*—Thomas P. Riggs, private, Comp. J, Hawthorn's Arkansas (Confederate) Infantry, was wounded at Helena, July 4th, 1863, by a ball entering the inner surface of the middle third of the right leg, passing through the gastrocnemius muscle, and emerging at the opposite point in the outer side. Admitted to Church Hospital, from the Overton Hospital, July 31st, 1863. Patient says he was doing well until the 15th of July, when gangrene appeared on his wound. Yeast and charcoal poultices, and nitric acid had been applied to the gangrene without arresting its progress. His appetite has been poor, but is now improving. The wound presents a surface of six inches longitudinally, by four transversely, extending to the posterior aspect of the leg: the upper margin being within three inches of the popliteal space. Slight hemorrhage occurred from one of the branches of the popliteal artery, which was arrested by the persulphate of iron. His tongue is clean and moist, pulse 75, full and regular; complexion sallow; skin moist; bowels regular. Ordered quinine and iron. August 12th.—Patient seems better, he is lively, says he had profuse perspiration about three o'clock this morning. Pulse 100, full; tongue clean and moist; temperature 96°; appetite poor, wound unimproved, attended with slight fœtor, and a sharp pain upon moving his limb. His bowels are regular, and he sleeps well in the fore part of the night. Labarraque's solution was applied with oakum to the wound. August 16th.—The sloughs readily came off this morning, leaving a fine healthy looking surface, attended with no

feet. The patient has diarrhoea; his tongue is moist and clean; appetite improved; temperature 94°; pulse 94, full. To take the following: R. Hope's mixt. 3ij, a table-spoonful every three hours. August 17th.—On examining the wound this morning a sulcus was found at the lower margin, dipping down between the muscles and skin, attended with gangrenous odor, and dark grey sloughs, to which bromine was applied with a swab. August 23d.—Patient says he does not sleep well. His appetite is moderate; tongue moist; pulse 108, of good strength; skin moist; temperature 93°. Nitric acid was applied to the wound. August 27th.—The sulcus is getting deeper, measuring two inches in depth, attended with strong foetor. His foot and ankle are oedematous, caused by the obliteration of the external saphenous vein. Compound solution of bromine was injected into the sulcus with a small glass syringe, the wound covered with a cerate plaster, and the foot and leg bandaged to the knee. The patient's complexion remained sallow; skin moist; pulse 78, moderate; appetite moderate, *but craves acids*; temperature 82°; bowels regular. August 28th.—The sulcus was incised from the lower border of the wound to the os calcis; the tendo-achillis was found involved to its insertion. The compound solution of bromine was applied with a swab. August 30th.—His appetite is improved, his tongue is moist and clean; he says he does not sleep well; the oedema is extending up the leg. Bromine was again applied to the wound. September 1st.—He had a heavy chill about five o'clock this morning. His complexion is of a leaden hue; tongue moist; skin moist; has no appetite; breath saccharine; bowels regular. The sloughs readily came off this morning, leaving a clean surface. On the night of Sept. 2d he became delirious, and continued so until 2 P.M. on the third, at which time he died. Mortification had begun to extend from the foot up the leg twelve hours before his death.

*Autopsy*.—Two hours after death: Body greatly emaciated; the lower and middle lobes of the right lung were engorged, and studded with metastatic abscesses; thrombi were found in the right ventricle, pulmonary arteries, and aorta.

CASE V.—Joseph A. Sullard, private, Co. A, 7th Mo., Confederate. On the 24th of July he was nursing a Confederate officer at the Officers' Hospital, who had gangrene—and while dissecting off the destroyed tissues from his wound he cut his ring and little finger with the scalpel, at the joint formed by the first and second phalanges. He applied nitric acid immediately. He also had a bruise on his left ankle, which, he says, the surgeon told him, was caused by a spent ball. On the 4th of August a scab formed, which he scratched off, and a sero-purulent fluid exuded from the wound. A flaxseed poultice was applied, and the next morning he was sent to Church Hospital.

The patient is weak; his mind much depressed; complexion sallow; appetite moderate; pulse 112, tolerably full; bowels regular. Says he has a slight burning pain in his ankle. On examination the joints of the ring and little finger are much swollen, presenting dark grey sloughs, extending over the posterior aspect. The external malleolus of the left leg is covered with a dark grey slough of uneven surface, two inches in breadth, and three in length, irregular margin, the edges everted, emitting a highly offensive odor. Dressings of oakum, saturated with liquor calcii chloridi, were applied to both wounds, and wet with the above solution, one part to eight of water, every two hours. The patient to have half-an-ounce of brandy every two hours, and nourishing diet.

The wounds continued to improve under the above treatment, and on the 12th inst. no gangrene remained. The extensor tendons of the fingers were destroyed, the phalanges falling apart, and the application of splints was necessary to keep the bones in apposition. The wounds were granulating healthily, the patient cheerful and hopeful, and says he feels much better. His appetite is good; tongue slightly coated; pulse 112, of good strength; temperature 100°. Everything was progressing favorably until the 7th,

at which time he had severe rigors, for which twenty grains of quinia were given in two powders, two hours apart.

August 19th.—The wound is again invaded by hospital gangrene. The cellular and tegumentary tissues involved. Liquor calcii chloridi was applied and continued, the wound gradually improving until the 26th, when the wound measured five inches longitudinally, and three transversely. The external malleolus and fibula were uncovered, the latter for four inches upward. The external lateral ligaments were destroyed, and gangrene extending between the articulation and around the posterior border of the wound, involving the subcutaneous tissue. The compound solution of bromine was injected with a small glass syringe into the joint, and applied around the edges with a swab, and reapplied on the 29th. On the 30th no gangrene remained, but granulations did not appear until the third of September. His countenance was of a leaden hue; appetite poor; tongue dry; pulse 84, weak, compressible, and irregular. On the 8th the compound solution of bromine was again applied on a few dull looking spots, which it was thought might become gangrenous. The patient's general system began to improve; his appetite was better; tongue clean and moist; bowels regular. September 20th.—The patient's general health is improving. Pulse 100, of good strength; tongue moist and clean; he has a slight diarrhoea; skin moist. The granulations are abundant throughout the whole extent of the ulcer. The fibula on either side is covered with granulations. The external malleolus is completely covered. The patient has been gradually improving up to the present time. He has occasionally had slight diarrhoea, which was controlled by astringents. Cicatrization is now (Oct. 1st) extending over the wound, and the patient has every prospect of an early recovery. The wounds on his fingers have entirely healed.

From about the 20th of August to the third of September, there was evidence of a very serious derangement of the mechanical action of the heart. The face was somewhat bloated, of a leaden hue, with turgidity of the mucous membrane of the mouth and eyes, the eyes at one time for several days becoming almost inflamed. The foot and limb became swollen, and the granulations ceased to grow and became flabby. The heart gave evidence of a large thrombus in the right ventricle, extending to the pulmonary artery through the semilunar valves, which were prevented from closing, so that the blood regurgitated, and the pulse irregular, uncertain, compressible, and weak. This condition gradually passed away, and now the heart appears to perform its functions normally.

In treating these cases, great care was taken to keep the wards in proper conditions. Everything of an offensive character was immediately removed; the wards were thoroughly cleaned every day, and disinfectants in the form of chlorinated soda solution, permanganate of potassa, and bromine, were freely used. The patients' clothes were changed as soon as they became soiled, and were immediately washed, well aired, and perfectly dried before being used again. Stimulants were given internally every two hours, in the form of brandy, whiskey, wine, porter, and ale. Astringents given to check diarrhoea, and antiperiodics whenever they had rigors. The diet was nutritious, and varied to suit the appetite of the patient. The tendency to looseness of the bowels, which was characteristic in the majority of the patients suffering with gangrene, was carefully watched, and proper remedies immediately administered. In the application of local remedies to the wounds, bromine was preferred to any other. Nitric acid, Labarraque's solution, liquor calcii chlorinati, sulphate of zinc, creasote, &c., had been used since the opening of the hospital, but preference was given to bromine, pure, or in the form of the compound solution. One application of bromine has seldom failed to destroy the gangrene, when the wound had been properly prepared, and a second or third application has generally proved efficient. From twenty-four to forty-eight hours after the application the sloughs came readily off, leaving a healthy-looking surface. Before applying the bromine, the wound was well denuded



of all dead tissue with the forceps and scissors, and thoroughly syringed with warm water, after which Labarraque's solution of soda was syringed into the various sinuses and sulci; the solution uniting with the ichorous discharge leaves the wound clean, at the same time stimulating the wound preparatory to the action of the bromine. Then a dry cloth was laid over the wound, and with a small stick made to penetrate into all the sulci and sinuses, to absorb as much of the moisture as possible. The wound being prepared in the above manner, the bromine was applied with a swab, or small glass syringe, and covered with a cloth spread with a simple cerate, the whole enveloped with a piece of oiled silk, and thus bandaged. The dressing was not disturbed until next morning, when the destroyed tissue, generally, readily came off, leaving a clean healthy-looking wound—to which oakum, saturated with Labarraque's chlorinated soda, was applied. Owing to the difficulty of thoroughly cleansing the wound, the bromine could not always be brought in contact with all the dead structures, but a second or third application seldom failed to produce the desired effect. The state of the patient's mind clearly indicated when the gangrene was destroyed. He would become enlivened, his appetite return with vigor, his pulse become stronger, and in a few days he would gain his strength, so as to be able to sit up or go about the ward.

## Progress of Medical Science.

PREPARED BY E. H. JAMES, M.D.

### HÆMOSTATIC TREATMENT OF CHOLERA, HÆMORRHAGE, EXHAUSTION, ETC.

THE writer, when in India, had unexpectedly a regiment prostrated with fever placed under his charge, and having but a small supply of quinine, he employed tourniquets to intercept the blood in the extremities, with a result so favorable as to induce him to bring the subject to the notice of the profession. There being about twenty-eight pounds of blood in the human body, and about two pounds in each of the four limbs, to enable us to relieve the congestion attendant upon intermittent disease, we have the control of at least a pound of blood in each limb by retarding it in the veins. This may be done with advantage in the premonitory symptoms of apoplexy, in severe cases of dyspnoea, in some organic diseases, and inflammations, where it is equivalent to the withdrawal of a certain quantity of blood from the general system. Another method of controlling the circulation is by stopping the arterial circulation in a limb. If a tourniquet is applied to the femoral artery, probably half of the blood intended for the limb is prevented passing into it and makes its way back to the heart, circulating through a smaller circle, and in some diseases proving a powerful tonic or stimulating effect upon the general system. This is apparent in those sudden and appalling cases of uterine hæmorrhage, also in the collapsed stage of cholera, where the system is so much prostrated that the most powerful medicines have no effect, the application of the tourniquet immediately removes the painful cramps; it increases the volume of blood, which stimulates the heart to increased action, removes congestion, changes the morbid distribution of blood from the secreting surface of the alimentary canal, and sets up a new and salutary action in its place. The purging and vomiting are thus stopped, the pulse becomes stronger, the heat and strength of the system are quickly restored, and time is allowed for medicines to act. When the individual is weak, and the state of collapse great, care is required in emptying by friction the blood in the veins of the extremity to be bandaged; and the effect will be more marked if the tourniquet be applied to four extremities. It may be kept on for hours, or even for a day or two. When

reaction has taken place, the pressure of the tourniquet is complained of, and if it be loosened too abruptly the blood spreads over the extremities, and the patient rapidly sinks. A number of cases of cholera are reported, illustrating the treatment, and also the danger of a too sudden removal of the instrument, from which the following conclusions are deduced:—

1. By its obstructing the circulation it immediately stops the distressing cramps of the extremities in cholera.
2. By increasing the quantity of the circulating fluid in the trunk, and thereby stimulating the heart's action, it removes morbid congestions, stops the secretions from the bowels, increases the animal heat, and powerfully tends to restore health.
3. By improving the vigor of the system medicines act more powerfully, and in a more salutary manner, in removing morbid actions.
4. When the reaction has taken place, by loosening the tourniquets with care the determination of blood to the internal parts is diminished by its diffusion over the extremities upon which the tourniquet had been placed. They are immediately to be tightened when there is any coldness or weakness experienced, or any tendency to relapse. This must be most carefully watched for, and prevented.
5. By increasing the volume of blood in the contracted circulation, the force of the heart is increased, local congestions are removed, and the whole system is strengthened.

## Reports of Societies.

### NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, Nov. 18, 1868.

DR. JAS. ANDERSON, PRESIDENT, IN THE CHAIR.

HYDATIDS OF THE UTERUS. DR. SQUIBB'S REPORT ON THE NEW U. S. PHARMACOPOEIA.

DR. FINNELL presented a specimen of hydatids of the uterus which was of interest from the fact that the patient was supposed by her medical attendant to be pregnant. Dr. F. had seen a case similar to this about five years before.

THE NEW UNITED STATES PHARMACOPOEIA. THE CHANGES THAT HAVE BEEN MADE, WITH THE REASONS FOR SO DOING.

DR. E. R. SQUIBB, of Brooklyn, N. Y., a member of the Committee for Revision of the U. S. Pharmacopoeia, reported that the work had been published, and made in substance the following statements in relation to the changes that had been made, together with the reasons for so doing.

*Weights and Measures.*—In the department of weights and measures the following changes have been made. The terms pound, drachm (for other than fluids), and scruple are disused, and all weights are expressed by the Troy ounce or grain. In writing for fluids the sign letter *f* should precede the  $\frac{3}{4}$  or 3 sign. The fluid measures are derived from the wine gallon. The term gallon is not used, its equivalent being expressed in pints. The use of the Arabic numerals is recommended as preferable to the Roman.

The *Materia Medica* list is divided into two sub-classes. I. Primary, and II. Secondary Lista. The first consists of those articles which are either of primary importance as remedies, or enter into the formulæ of the work, while the second class is formed of those which are of secondary importance and do not enter into the formulæ.

*Chromic acid* (acidum chromicum) is introduced as a valuable and self-limiting escharotic. Thus far it has been employed extensively in uterine diseases. It is applied through a speculum by a glass tube or a glass rod.

*Lactic acid* (acidum lacticum) is introduced for the purpose of making lactate of lime; and the *glacial phosphoric*

acid is also placed in the primary list for the preparation of dilute phosphoric acid, a very valuable nervine tonic.

*Fusel oil* (Alcohol Amylicum) is introduced for making valerianic acid.

*Aloes* is divided into three varieties, I. *Aloe Barbadosensis*, II. *Aloe Capensis*, and III. *Aloe Socotrina*, which is the best.

*Ammonia alum* (sulphate of aluminum and ammonia) is given for a choice as an ordinary astringent.

*Aqua Ammoniac fortior*.—The term *aqua* is substituted for *liquor*, inasmuch as the former is intended to apply to a solution of volatile substances and the latter to fixed substances.

*Belladonna Radix* is added for the preparation of atropia. *Bromine* is introduced to furnish the bromide of potassium, the reputed remedy for hospital gangrene.

*Chiretta* is added to the list of bitter tonics.

*Chloroformum Venale*.—Commercial chloroform is placed in this list to give an opportunity for prescribing the common article for external application, it being a great deal cheaper, and equally, for that purpose, as good as the pure.

*Cinchona Flava*.—The cinchonas are divided into C. *flava* and C. *pallida*, the *flava* (yellow) being the best.

*Fermentum* (yeast) is made official, that it may be written for in prescriptions; *gutta percha* is introduced for making the gutta percha collodion.

*The Butter of Cocoa* (Oleo theobromæ) is introduced as the best ingredient for suppositories.

*Opium*.—Opium must not be considered official unless it contain 7 per cent. of morphia.

*Potassæ Permanganas* is a most valuable disinfectant for carcinomatous growths, but hardly fit for anything else.

*Saccharum lactis* (sugar of milk) is introduced as a vehicle for alkaloids where it is necessary to divide very finely. It is very slowly soluble, and is by this means capable of disguising the taste of medicines.

*Scammony* must contain 75 per cent. of true resin to be official.

*Sinapis* (mustard) is divided into two varieties (white and black), both having different therapeutical properties.

*Whiskey* (spiritus frumenti), and bay rum (spiritus myricæ) are official preparations. The former should contain 48 to 56 per cent. of alcohol, be free from odor, and be at least two years old.

*Port and Sherry Wines* are also official, the former is named Vinum Portense, and the latter Vinum Xericum.

*Sulphur*.—Sublimed sulphur is introduced to be used as an ingredient for ointments in cutaneous affections, inasmuch as it contains the sulphurous and sulphuric acid, which the washed rotund sulphur does not. This latter is used internally.

Dr. Squibb will continue his review at the succeeding meetings of the Academy.

There being no other business before the body the motion for adjournment prevailed.

THE death of Dr. Chrestien, "the veteran of military surgery," at ninety years of age, is announced. He died at Lyons "full of honors and of years."—*Brit. Med. Jour.*

M. BARDINET, of Limoges, read a memoir before the Academy of Medicine upon an epidemic of jaundice, as it had affected puerperal women in that city. His memoir is based on twenty-five cases, three of which proved fatal. He has found it assuming three degrees: the *simple* or *benign*, which in nowise interferes with the progress of the pregnancy, this going on to its full term; the *abortive*, in which it is severe enough to determine abortion or premature labor, but leads to no further ill effect; and the *malignant*, in which the death of both mother and infant is rapidly produced. This epidemic prevailed extensively amidst the population of Limoges, but, with the exception of pregnant women, it proved in all a very mild affection. —*Med. Times and Gazette.*

## American Medical Times.

SATURDAY, DECEMBER 12, 1863.

### TREATMENT OF REBEL AND FEDERAL PRISONERS.

In our last number we presented the report of the recently liberated surgeons on the condition of the Federal prisoners at Richmond. The public sympathy has been deeply stirred by these narrations, and a feeling of intense indignation has been aroused. The conduct of the rebel authorities admits, in truth, of no palliation. The humane treatment of prisoners is a duty paramount to all others, and this violation of the usages of civilized warfare is an unmitigated barbarity, and altogether inexcusable. We alluded also on the same occasion to the humane treatment of rebel prisoners by our Government, and we should not again refer to the matter at length were it not that certain foreign medical periodicals are in the practice of charging upon the United States authorities a disregard of the amenities of civilized life in the conduct of this war. In the treatment of their respective prisoners we have a fair exponent of the civilization and humanity of the contending parties, and we propose briefly to exhibit the facts bearing on this subject. The Sanitary Commission has recently investigated the particulars of the treatment of both Federal and Rebel prisoners, and presented in the *Bulletin* the results. From this report we shall freely extract.

And, first, as to the treatment of Federal prisoners. In addition to the facts presented last week we gather the following from this report:—

"Of the 185 who escaped with their lives from the prisons of the rebel capital, eight died on the passage from City Point; several, almost immediately after landing, expired of inanition. Of 134 sent to the 1st Division Hospital, 43 had died up to Sunday last; and many more, exhibiting frightful signs of starvation, though still alive, are destined not to survive. On their arrival at the landing, many were in a dying condition; and were alive with vermin, filthy, and almost entirely destitute of clothing. Some had only shreds of a single shirt remaining, others the remains only of an old blanket around the body; most of them were footsore; 120 were without shoes; and so reduced, many of them, as to be beyond the reach of food or stimulants to restore them. All are unclothed, unsheltered, and unfed. Knapsacks are always taken from prisoners, and their contents stolen. The sick only are sometimes allowed to retain a blanket; other clothing, and boots and shoes, almost always are taken. Upon Belle Island there is no shelter for the thousands there, most of whom are sick and half naked, lying upon the ground; sand is incrusting into the sore backs of some; and the unanimous testimony of all about the food was, that it was a 'famine ration;' that men 'starved upon it.' The rations, meagre as they are, are not served regularly—but their distribution is dependent upon the mismanagement and caprice of officers who sell them. One officer, an intelligent Englishman, said, 'I have known the Quartermaster to sell all the bread he could find sale for and send the rest to the prisoners.' Some describe their imprisonment as 'a long struggle with hunger.' In answer to questions as to clothing and shelter upon Belle Island, one man said, 'the men mostly sleep in the sun in the daytime, and walk about all night, to keep warm.' A captain of cavalry said, 'the ration in hospital is one and a half ounces of meat, half a pint

of their bean soup, and three slices of bread daily. A few bandages were distributed among the badly wounded, but no lint, and no medicines.' Another man said, 'I have seen half-starved fellows from Belle Island search about for crumbs on the floor on reaching the hospital, and devour their first scanty meal like hungry dogs; so nearly starved are they when sent to hospital that none of them live more than two days. They all die. I saw some of our poor fellows utterly crazy from want and ill-treatment. Others had forgotten their names, and the number and name of their regiment.' A prisoner from Belle Island says, 'they had some old tents there, but now nothing in the way of shelter is left but some old strips of canvas. The daily ration was ten pounds of beef and bones for one hundred men. It was sometimes bad; but we never minded that. One loaf of bread—often it was sour, and had lime in it—was divided in six slices; two slices and about one-quarter of a pint of boiled dirty water with a teaspoonful of beans in it, was all we got; but sometimes we didn't get that. The loaf weighed about a pound. The guard got a whole loaf a day. We sometimes got three or four spoonfuls of rice, but it was not boiled enough. The soup was made by adding one and a half pailfuls of soup, in which the meat and bones were boiled, to twenty pailfuls of hot James river water.' One man said, 'the soup, as they called it, was so thin, that except for the dirt in it, it would not stain a white handkerchief.'

Another says:—"Our ration was bread, and a *pint cupful* of rye, coffee, or the same quantity of soup made of rice and turnip leaves—for twelve men. The beans we got were always musty. In one room in the hospital were eighty-one patients with diarrhoea; forty of them died. Sometimes officers who were kept in a room above us bought food—potatoes and bread—and passed it down through holes where chains for hauling up tobacco passed. They often poured soup down to the hungry fellows, but they had to knock on the floor, and when the guard found us out we were deprived of our rations.' Several describe the hospital ration as barely sufficient for well men to keep alive upon; the sick were all too bad and weak to be benefited much by it. The water of James river, which was made into soup, when it was taken for the use of our men on the island, was black from the filth of the sewers which empty into it; the bread is often sour, and the meat without salt; disgustingly fresh; the rebel officers, when they can get salt, sell it; rice is always given half boiled. The quartermaster, after the bread is baked, sells all he can get pay for, and gives us our ration out of what is left. Rations were purposely served after dark, and the meat—a mouthful apiece for sixteen men—was thrown upon the floor in all the filth, where they had to divide it."

We close this testimony of the Federal prisoners in regard to their treatment, with the statement of GEN. NEAL Dow, who is still an inmate of the Libby prison.

"We have only corn bread (unsifted), a little rice, and a few poor sweet potatoes and water for our rations. The bread is about half a pound; the rice half a gill. I had today eight potatoes; only two were good for anything—medium size—the others not larger than one's finger!"

In contrast with these tales of suffering and privation we present the following facts in regard to the condition and treatment of the rebel prisoners at Point Lookout, Maryland, one of the principal depots. Of the hospital the report says:—

"The hospital was situated in the southern part of the encampment, and was composed of eighteen hospital tents complete, arranged two together, end to end, and placed in two rows, a broad street intervening, with the cook and dining tent on the eastern end, and facing the street. In these tents there were one hundred patients, and all, with the exception of five or six, were on raised bunks, and all were lying on mattresses,

with at least one blanket for covering. Eight of their own men were detailed to take care of them; and although they were enlisted men, yet six were graduates of some medical school, and the other two had been students. The rations were very good, both in quantity and quality amply sufficient for any sick man; but there are exceptional cases where they need something more delicate than the regular army ration. The majority are perfectly well satisfied, and very little complaint is made in this particular. The following is the full, half, and low diet:—

FULL DIET.	HALF DIET.	LOW DIET.
<i>Dinner.</i>	<i>Dinner.</i>	<i>Dinner.</i>
Beef or pork, 4 oz.	Meat, 2 oz.	No meat.
Potatoes, 4 oz.	Potatoes, 3 oz.	Potatoes, 2 oz.
Hard-tack, 3 oz.	Hard-tack, 2 oz.	Hard-tack, 1 oz.
<i>Breakfast and Tea.</i>	<i>Breakfast and Tea.</i>	<i>Breakfast and Tea.</i>
Coffee or tea, 1 pt.	Coffee or tea, 1 pt.	Coffee or tea, 1 pt.
Rice, 2 gills.	Rice, 1 gill.	Rice, 1 gill.
Molasses, 1 oz.	Molasses, $\frac{1}{2}$ oz.	Molasses, $\frac{1}{4}$ oz.
Hard-tack, 3 oz.	Hard-tack, 2 oz.	Hard-tack, 1 oz.

"Soup and soft bread are also given them at least once a week. Of their shelter there can be no possible complaint, for they all have good tents, such as wall, hospital, Sibley, wedge, shelter, hospital, and wall tent-flies. The majority are in the wedge tent. Average in a hospital tent, from fifteen to eighteen men; in wall tent, from ten to twelve; in shelter tent, three; in Sibley tent, from thirteen to fourteen; in wedge tent, five; under hospital-fly, from ten to thirteen; under wall tent-fly, from three to eight. Of the shelter tents, only a very few are excavated and boarded at the sides, and almost every tent throughout the camp has a fire-place and chimney, built of brick, made by them from the soil (which is clay) and sun-baked. In a few of the Sibleys holes are dug, fire built, and covered at the top; generally the tents are filled with smoke.

"The ration to the well men is for the day, pork, 3 oz. or salt beef, 4 oz.; hard-tack, 10 oz.; coffee, 1 pint. Soup is also given once a week, potatoes and beans every five days, soft bread once a week; and fresh meat had been issued to them once a week, up to two weeks ago, when, from some cause I could not find out, it was stopped."

The treatment of rebel prisoners at Point Lookout is no more kind and considerate than at other depots of prisoners. At David's Island, New York, where between two and three thousand sick were congregated after the battle of Gettysburg, every attention was given them and every want was supplied. In this review we would not be understood as boasting of the generosity of our Government, for we believe that it has only done its duty to its prisoners, but we do claim that when its conduct is in such striking contrast with that of the rebels it should not be accused of "foul blows," and of having violated every rule of civilized warfare.

## THE WEEK.

FROM occasional newspaper rumors we gather some of the items which are to form the staple of the report of the committee appointed to investigate the alleged abuses in the Army Medical Department. They consist thus far of alleged purchases of hospital stores of particular individuals or firms, at a higher rate than was demanded in the general market. In this course the Surgeon-General deserves special commendation. He simply purchased pure drugs, and other articles of good quality, and paid accordingly for them. The instances are not few where medical purveyors have gone into the general market and purchased cheap drugs, but of the most impure kind. In patronizing a reliable house, and paying well for the arti-

cles purchased, the Surgeon-General has set an example which other departments may follow to advantage.

DEATHS by chloroform are reported almost weekly in the London medical journals. Six have occurred during the last two or three months. But this fearful mortality does not seem to attract unusual attention, nor does it lead to any very practical efforts to correct the evils attendant upon its administration. A Chloroform Committee has been appointed to report upon the employment of this agent, but no other step has been taken. As usual, these cases have occurred where a very slight operation was about to be performed. It is probable that the fault generally lies in the manner of administration. This duty is generally intrusted to the junior physician present, and either to his ignorance or carelessness the fatal issue of the case may be traced. It would be better to discard this agent altogether than intrust it to incompetent hands.

THE physicians of Boston are again moving in behalf of a Government appropriation to Dr. MORTON, the alleged discoverer of "practical anæsthesia." A circular has been issued calling upon medical men to influence the representatives and senators in Congress with whom they may have acquaintance. It is signed by Dr. JAMES JACKSON, President of the Morton Testimonial Association, and by Dr. JOHN WARE, Chairman of the Executive Committee.

## Correspondence.

### FIRST AMERICAN OPERATION FOR REMOVAL OF THE HEAD OF THE FEMUR.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—Much importance having recently been attached to the removal of the head of the femur, in caries, etc., in the hands of Dr. Sayre and others, it may be well to call attention to the following case in the seventh number of the first volume of the *N. Y. Med. and Surg. Reporter* (January, 1846). It is a detailed account of an operation of this kind, the first ever performed in this country, and at the time original with the operator. It will be seen to have been performed during the summer of 1845.

W. C. R.

NEW YORK, Dec. 8, 1863.

"REMOVAL OF THE HEAD OF THE FEMUR.—This important operation was performed by J. P. Batchelder, M.D., of Utica, N. Y., during the past summer, and we are indebted to a friend for the following particulars of the case, which, if incorrect in any particular, we beg to be corrected when the operator shall have seen this article. The subject of the operation was a young man, about twenty years of age,—he received an injury at the hip-joint from the kick of a horse, some four or five years previously, and had not been able to use the leg from that time, up to that of the operation. The limb had become somewhat atrophied, and was about two inches shorter than its fellow. There were two fistulous openings, which kept up a continual discharge, and consequently his general health had become very materially impaired. The fistulous openings, above alluded to, were situated between the trochanter major and the tuberosity of the ischium, one above the other, and about three inches apart. Upon introducing a probe at either of the sinus-openings, a bone was felt, which was supposed to be the head of the femur necrosed; but whether it was detached or not, could not be determined. The dead bone, which lay in the direction of the acetabulum, was about three inches from the surface, owing to the tumefied

condition of the soft parts. The Doctor, at first, prepared to make an incision down to the bone, and extract it, but owing to the state of the general health of the patient, he decided on a slower and equally certain, and perhaps safer mode; which was to introduce tents of compressed sponge, for the purpose of dilating the openings, the spongia præparata being inserted every night and morning, pro re nata, and gradually enlarging the quantity. In the course of ten days, the openings were considerably enlarged, in consequence of which, by the use of the probe, it was fully ascertained that the head of the bone was detached. The Doctor then introduced an eyed probe, very much curved, and armed with a ligature, attached to which was a cord of about one-tenth of an inch in diameter; he succeeded in passing the curved probe in at the lower opening, and along the bone, until it could be felt at the bottom of the one uppermost, when it was seized with strong dressing forceps, and after some trouble, but without much pain, drawn out through that aperture, and tied with a slip-knot over the intervening flesh, so as to be tightened daily, which was continued for about a fortnight, when it having completely effected the object for which it was employed, dropped off. On passing the finger deep into the chasm, the bone could be distinctly felt, and was ascertained to be slightly movable. A further and more particular exploration was now made, and the scoop end of a strong director hitched under one of its edges, by means of which it was slightly raised, which enabled the Doctor to grasp it with the forceps, and by turning it still more up, he finally succeeded in bringing it out edgewise through the external wound. The bone taken away, proved to be the head of the femur.

"The wound was dressed by introducing a fold of lint between the lips of the wound, passing it to the bottom of the cavity, and a compress and bandage applied. In the course of a few weeks, the entire wound was healed, with the exception of a small opening, which appeared to be about half an inch deep, over which he applied small blisters in succession, by means of which, and the use of Tr. canth. and tonics, it was soon completely healed. His general health rapidly improved under a constitutional treatment, until he was discharged, completely cured.

"In three months after the removal of the bone, he laid aside his crutches, and by the help of a cork-soled shoe, walked short distances quite easily, and somewhat gracefully.

"It may be said by some, that the *knife* would have been preferable to the slower means used, but it was adopted upon the Golden Rule, 'do unto others as we would wish to be done by,'—a principle which should always govern us in surgery, as well as in morals.

"What must have been the condition of the hip-joint from the time of the injury up to the time of the operation? Was the neck of the bone fractured and dislocated at the same time, by the kick from the horse, some years previously? Or was the neck of the bone merely fractured, and the head left remaining in the socket, and acting as an irritant, causing the cotyloid ligament to be absorbed, thus freeing itself from the acetabulum? Or could it be that there was morbus coxarius caused by the injury, and followed by necrosis of the head of the bone? Our informant has not given us enough of the early history of the case, in order to decide an important question.

"The operation for removing the superior extremity of the femur, for hip-disease, has been performed twice in England, which was unknown to Dr. Batchelder, at the time of his operation; hence, the operation was original with him."

THE discussion on hydrophobia at the Academy of Medicine has resulted in the appointment of a rabies committee, charged with the duty of investigating prophylactic measures, and endeavoring to procure the extinction of this scourge of the canine race.

# Army Medical Intelligence.

(CIRCULAR No. 26.)

SURGEON-GENERAL'S OFFICE,  
Washington, Nov. 24, 1868.

The attention of Medical Officers in charge of United States General Hospitals is invited to the importance of preparing illustrations of the results of surgical operations. These can in many instances be conveniently obtained by means of plaster casts, which are readily made without subjecting patients to the slightest inconvenience.

The casts most desired are those of stumps of amputations of every variety, and models of limbs upon which excisions may have been performed.

In selecting proper subjects for representation, it would be well to choose not only cases in which the results have been favorable, but also those in which they have been unfavorable. In a collection like the National Museum, truthful representations of both good and bad results are alike instructive and valuable for future reference and study.

These casts, when made, should be forwarded to the Army Medical Museum by Express. The expressage will be paid in Washington. All preparations should be accompanied by proper histories, with name, rank, and station of the contributor, who will be duly credited in the Museum Catalogue.

JOS. K. BARNES,  
*Acting Surgeon General.*

SURGEON-GENERAL'S OFFICE,  
Washington, Nov. 31, 1868.

SIR—The Secretary of War having authorized the payment for washing from the appropriation for the Medical Department, for those hospitals and hospital steamers where a sufficient number of laundresses cannot be employed, you are directed to have the bills contracted under these circumstances, presented to the nearest Medical Disbursing Officer for payment.

By order of the Acting Surgeon-General.

C. H. CRANE, *Surgeon, U.S.A.*

To Medical Directors.

SURGEON-GENERAL'S OFFICE,  
Washington, Dec. 30, 1868.

SIR—The Acting Surgeon-General directs that the accounts of officers, treated in General Hospitals, be hereafter rendered to this office only at the time of their discharge from the Hospital, or of their decease while in it, instead of being forwarded monthly, as heretofore. The account of each officer is to be made out separately, embracing his total indebtedness from the date of his entry, to that of his leaving it, and is to be transmitted promptly at the latter time.

By order of the Acting Surgeon-General:

C. H. CRANE, *Surgeon, U.S.A.*

To Medical Directors.

## ORDERS, CHANGES, &c.

Ninety-three Surgeons and Assistant-Surgeons arrived in Washington, D. C., on the 26th inst., from the Libby Prison, Richmond, Va. Surgeon Daniel Meeker, U.S.V., Medical Director to General Milroy, is among the number. They have been granted twenty days' leave.

Surgeon John W. Brennan, 1st U. S. Sharpshooters, has been honorably discharged the service of the United States, on account of physical disability from wounds received in action.

Upon the recommendation of a Board of Officers, instituted by Special Orders No. 928, June 27, 1868, from the War Department, Surgeon C. M. Stockwell, 21th Michigan Vols., has been honorably discharged the service of the United States, on account of physical disability.

Leave of absence has been granted Surgeon J. K. Duncan, 37th Kentucky Vols., to enable him, as member of the Legislature of Kentucky, to attend the coming session thereof. As soon as the Legislature adjourns, he will at once return to his regiment.

Assistant-Surgeon H. Everman, U.S.V., has been assigned to duty in the office of the Medical Director at Louisville, Ky.

Surgeon Geo. H. Hubbard, U.S.V., has been relieved as Medical Director, District of South-western Missouri, Springfield, Mo., and assigned to duty at Fort Smith, Arkansas, as Medical Director, District of the Frontier.

Surgeon A. T. Watson, U.S.V., has relieved Acting-Assistant-Surgeon J. M. Pillsbury, U.S.A., in charge of General Hospital No. 1, Louisville, Kentucky.

General Hospital, McKim's Mansion, Baltimore, Md., has been discontinued.

Medical Inspector Vollum, U.S.A., reports from Chattanooga, that there are sufficient accommodations for all the wounded in the late battles at Lookout Mountain, Mission-Ridge, &c., and that medical supplies of all kinds are ample.

Surgeon Israel Moses, U.S.V., has been assigned to duty as Medical Director and Superintendent of Hospitals at Murfreesboro, Tenn. The badly wounded of "Chickamauga" have been sent there.

Surgeon Bernard Beust, U.S.A., has assumed charge of the United States General Hospital, Pittsburg, Pa.

Surgeon W. C. Otterson, U.S.V., has been assigned to duty in charge of General Hospital No. 8, Nashville, Tenn.

Surgeon R. K. Smith, U.S.V., to duty as Medical Director, Port Hudson, Miss.

Surgeon S. N. Sherman, U.S.V., to duty in charge of General Hospital, Grafton, Va.

Surgeon Henry Buckmaster, U.S.V., has been relieved from duty as Medical Director, District of the Frontier, and is awaiting orders at Leavenworth city, Kansas.

Surgeon Thomas B. Reed has been assigned to duty in charge of General Hospital, Parkersburg, Va.

The following Orders have recently been issued from the War Department:

Surgeon Alexander Ewing, 18th Michigan Volunteers, recently released as prisoner of war from Richmond, Va., will join his regiment. Permission to delay reporting until January 1, 1869, is hereby granted him.

The following Medical Officers, recently released as prisoners of war from Richmond, Va., will join their regiments. Permission to delay reporting for thirty days is granted them:—

Surgeon E. M. Seeley, 21st Illinois Vols.; Assist-Surgeon D. B. Wren, 75th Ohio Vols.; Assist-Surgeon William Spencer, 7d Indiana Vols.; Assist-Surgeon E. R. McCardle, 110th Ohio Vols.; Surgeon W. A. Rogers, 3d Tennessee Vols.; Assist-Surgeon P. G. Barrett, 7th Ohio Cavalry; Surgeon William M. Houston, 122d Ohio Vols.; Assist-Surgeon, W. B. Hornbrook, 42d Indiana Vols.; Surgeon J. L. Woodin, 68th Indiana Vols.; Surgeon Daniel Meeker, U. S. Vols.; Assist-Surgeons Josiah L. Brown, 116th Ohio Vols.; Charles D. Simpers, 6th Maryland Cavalry; Alexander M. Parker, 1st Maine Cavalry; Surgeons A. W. Whitney, 18th Massachusetts Vols.; L. Holbrook, 8th Connecticut Vols.; George B. Lummus, 18th Pennsylvania Cavalry; W. F. McCurdy, 57th Pennsylvania Vols.; W. B. Gavran, 26th Ohio Vols.; James T. Reeves, 21st Wisconsin Vols.; O. Q. Herrick, 24th Illinois Vols.; S. B. Hawley, 35th Illinois Vols.; L. J. Dixon, 1st Wisconsin Vols.; William Forrister, 6th Kentucky Cavalry; J. Shady, 2d East Tennessee Vols.; C. W. Fowler, 105th Ohio Vols.; J. M. Cook, 24th Ohio Vols.; J. M. Rice, 25th Massachusetts Vols.; J. McCurdy, 11th Ohio Vols.; T. L. Magee, 51st Illinois Vols.; C. Helm, 92d Illinois Vols.; Assist-Surgeon W. H. Lemon, 32d Indiana Vols.; Surgeons H. J. Herrick, 17th Ohio Vols.; George P. Ashman, 33d Ohio Vols.; J. E. Brelford, 74th Ohio Vols.; Christopher S. Arthur, 75th Indiana Vols.; Assistant-Surgeons J. C. Fruit, 54th Pennsylvania Vols.; G. H. Blaker, 21st Michigan Vols.; G. E. Kanny, 3d Michigan Cavalry; J. K. Moore, 18th Ohio Vols.; E. A. Tullis, 7th Ohio Cavalry; A. J. Lang, 2d Tennessee Cavalry; C. P. O. Hamilton, 90th Ohio Cavalry; E. M. Howland, 24th Ohio Vols.; W. H. Graham, 101st Indiana Vols.; S. E. Holzman, 65th Indiana Vols.; A. L. H. Burnett, 8th Tennessee Cavalry; W. G. McFadden, 79th Indiana Vols.; O. Nellis, 3d Virginia Cavalry; J. E. Uhler, 67th Pennsylvania Vols.; A. V. Ketchum, 88d New York Vols.; J. N. Miller, 120th New York Vols.; E. K. Hogan, 120th New York Vols.; S. L. Henry, U.S.A.; Acting Assist-Surgeon Lewis Applegate, 102d New York Vols.; Assist-Surgeons Thomas F. Morgan, 10th Missouri Vols.; F. Smith, 116th New York Vols.; A. A. Mann, 1st Rhode Island Cavalry; N. S. Looker, 6th Illinois Cavalry; F. H. Patten, 12th Virginia Vols.; M. F. Bowser, 12th Pennsylvania Cavalry; J. W. Brown, 22d Illinois Vols.; N. H. Sidwell, 11th Ohio Vols.; A. H. Lades, 38th Ohio Vols.; A. H. Shaffer, 75th Indiana Vols.; D. D. Benedict, 17th Ohio Vols.; H. T. Woodruff, 100th Illinois Vols.; E. J. Hill, 45th Ohio Vols.; E. D. W. C. Wing, 57th Ohio Vols.; J. J. Sheldon, 45th Ohio Vols.; W. A. Downey, 68th Illinois Vols.; E. F. Fardam, 89th Illinois Vols.; W. G. Bell, 55th Indiana Vols.; Robert Johnson, 100th Ohio Vols.; F. Corfe, 1st Wisconsin Vols.; J. M. Weaver, 22d Ohio Vols.; C. E. Goodale, 33d Ohio Vols.; J. C. Elliott, 18th Kentucky Vols.; H. A. Goodale, 11th Michigan Vols.; W. D. Towta, 51st Indiana Vols.; H. S. Griswold, 75th Pennsylvania Vols.; J. T. Walton, 103d Pennsylvania Vols.; Surgeon Frederick Wolfe, 89th New York Vols.; Assist-Surgeons G. Bingle, 52d New York Vols.; E. Humphrey, 143d Pennsylvania Vols.; Surgeons Joseph Fittman, 18th Kentucky Vols.; S. J. Young, 79th Illinois Vols.; H. M. Morrison, 23d Kentucky Vols.; E. A. Merrifield, 44th Illinois Vols.; Assist-Surgeons W. H. Park, 49th Ohio Vols.; W. A. Carmichael, 2d Ohio Vols.; G. W. Withers, 18th Pennsylvania Vols.

W. Pryor, having withdrawn the acceptance of his appointment as Assistant-Surgeon, 1st U. S. Colored Troop, and not having been mustered into service, said appointment is hereby revoked from its date.

## Medical News.

THE Anniversary Dinner of the New York Society for the Relief of Widows and Orphans of Medical Men, will be given at the Metropolitan Hotel, Thursday, December 17th, at 7 o'clock P.M. The Stewards are, Drs. S. T. Hubbard, J. J. Crane, T. C. Fennell, J. R. Vankleeck, C. D. Smith, J. W. Greene, R. A. Barry; from whom tickets may be obtained.

## Original Lectures.

### AMPUTATIONS IN GUNSHOT FRACTURES OF THE THIGH,

BEING REMARKS MADE AT THE MEETING OF

THE SURGICAL SECTION OF THE N. Y. ACADEMY OF MEDICINE.

Held Nov. 27, 1868.

By E. KRACKOWIZER, M.D.,

OF NEW YORK.

THE patient I present, is twenty-one years old, and was wounded at the battle of Fredericksburg, Va., December 13, 1862. The ball struck the left thigh on its anterior aspect, a little below the middle, and taking an oblique upward and backward course, passed out not quite two inches below the gluteal fold, shattering the bone. He received no treatment looking to a coaptation of the fracture, except on the seventh day after the injury, when a couple of splints were applied to make his transportation to the steamboat, leaving Aquia Creek for Washington, easier. On the eighth day he was admitted in Mount Pleasant hospital. From what he describes there is no doubt that Dr. N. R. Smith's anterior splint was applied, and the limb swung up with a couple of cords. The treatment was simple, and although much troubled with diarrhoea, then so prevalent in our military hospitals, consolidation was so firm after three and a half months, that he could be discharged, his relatives receiving permission to take him to New York, where he arrived about the middle of April, 1863. I found him moderately emaciated and feverish, the diarrhoea still persisting. The thigh as well as the leg was greatly swollen, and the suppuration from both wounds was quite abundant. A very massive callus indicated the seat of the fracture between the middle and upper thirds. A probe, introduced through the anterior wound, struck dead bone immediately. April 18.—The anterior wound was enlarged, and an irregular fragment of the ball with some pieces of bone was removed. On probing with the finger some more dead bone was felt, around which the callus was fused, and situated nearer the posterior aspect of the thigh. So another incision was made, three inches long, reaching the callus between the biceps and semimembranosus muscles. By taking away liberally from the callus with the gnawing forceps, a complete canal was made through the callus, and some more necrosed splinters—fourteen altogether—the majority quite firmly encased, removed. The upper end of the lower fragment felt quite suspicious—like necrosed bone—but its removal almost necessitating the reproduction of the fracture, it was left. The condition of the patient some time after the operation caused me a great deal of anxiety. The diarrhoea was at times very rebellious, the appetite very varying. May 7.—Patient complained of pain in the chest, and the stethoscope detected friction-sound in the region of the heart. Happily no serous exudation in the pericardium followed, and the inflammation subsided after a few days under application of cold water compresses. About the same time the face became slightly buffed, and the chemical examination of the urine, which previously at irregular intervals had shown rich sediments of urates, detected albumen, the microscope casts and epithelium of the Bel-  
linian tubes in different stages of fatty degeneration. Yet from the middle of June the condition of the patient took a better turn, and towards the end of July all the wounds had healed. He commenced to take exercise on crutches, first in the room, then in the open air. Aug. 19.—Coming home from a walk in one of the parks near his residence, he was taken with severe pain in the thigh, and at the same time with a chill, followed by a burning fever. The thigh became at once very swollen, and all the cicatrices opened, rapidly assuming the character of sloughing ulcers,

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discharging a moderate quantity of very fetid, thin sanies. I was looking forward for the expulsion of necrosed bone; or some other foreign substance, like a piece of dressing. But nothing came, nor could anything be detected with the probe. By diligent application and injection of a solution of permanganate of potassa, in three or four days the wounds assumed a healthy character, and cicatrized again. Twice since did they break again, but not near under so bad general as well as local symptoms. Since three weeks they are closed, and look as healthy as scars as any could be seen. There is nowhere any infiltration of the soft parts, the muscles being laterally movable over the callus, which is considerably diminished in bulk from what it was before the operation. There is lateral displacement of the fragments outwards, and the lower end of the upper fragment has a very well marked inclination backwards, a condition of things frequently observed by Prof. F. H. HAMILTON in complicated fractures of the thigh, when treated with Dr. N. R. SMITH's anterior splint. The shortening amounts to nearly two inches. There is still considerable stiffness of the knee, as well as of the ankle-joint. Patient wears a shoe with a sole two inches high. He can walk a few steps unsupported, but for locomotion relies mainly on crutches, by the aid of which he can take a walk of a mile or more, resting himself for a short time after a few blocks' travel. His general health is as good as ever.

In relation to the subject which occupies us this evening, Mr. Chairman, I have looked through the writings of the modern authors on military surgery in Germany. I will state briefly their views on the treatment of the gunshot fractures of the thigh.

FR. ESMARCH and L. STROHMEIER report thirty cases of gunshot fracture of the thigh, occurring during the Sleswick-Holstein war, from 1848-1851, treated on the conservative plan, of which fifteen recovered with more or less useful limbs. Strohmeier has the measurements of twelve out of these fifteen cases. The shortening was in one case five inches; in one case four inches; in four cases three inches; in five cases two inches; and in one case one inch. During the same time for the same injury 128 amputations of the thigh were made, of which only 51 recovered. So the statistics are decidedly in favor of the conservative treatment. It is to be regretted that no classification of the amputations is made, whether primary or secondary, nor in which portion of the thigh.

With the practice of the surgeons of the opposing Danish army I am not acquainted, but the inference is strong that they were guided by similar considerations, as after the peace five soldiers of the Sleswick-Holstein army were returned with useful limbs after gunshot fractures of the thigh (included in Strohmeier's and Esmarch's tables, they returning four such Danish soldiers).

During the Crimean war, as is well known, the experience of English as well as French surgeons, when attempting to save limbs with fractures of the thigh from gunshot, was so discouraging that *McLeod, Matthew, and Baudens* reject the conservative treatment. Of 174 soldiers and 20 officers of the English army with complicated fractures of the thigh in general, only 14 privates and 5 officers recovered. Yet they were not much more fortunate by attempting to save life by sacrificing the limb. Of 164 amputations of the thigh there are 107 fatal results. Of 39 amputated in the upper third 34 died.

Of 65 " " middle " 39 "  
Of 60 " " lower " 34 "

*Herman Demme*, during the late Italian war, gives his experience with the Franco-Sardinian army as follows:—

#### GUNSHOT FRACTURES OF THE THIGH.

##### Conservative Treatment.

Upper third,	43 cases,	18 recoveries	(42 p.c.)
Middle "	46 "	18 "	(39 p.c.)
Lower "	76 "	43 "	(56½ p.c.)
Total,	165 "	79 "	(50 p.c.)



Among the 79 recovered cases 20 limbs are pronounced as useless, or nearly useless, which, of course, does not affect the proportion of mortality between treatment by amputation and conservative surgery.

*Amputations of the Thigh in the Italian Hospitals.*

(No enumeration of primary and secondary amputations.)

Upper third,	109	amputations,	95	deaths,	(87 p.c.)
Middle "	158	"	114	"	(72 p.c.)
Lower "	125	"	77	"	(61½ p.c.)
Not stated,	39	"	35	"	(89½ p.c.)
Total,	431	"	321	"	(74½ p.c.)

If this tabular statement of *Demme* did not already show that French and Italian surgeons pursued a discriminating course in the treatment of gunshot fractures of the thigh, it would become apparent from an article of *Jules Roux* in the *Gazette hebdomadaire*, May 11, 1860, wherein he reports in the Hospital *Saint Mandrier*, in *Toulon*, 21 French soldiers returned from Italy with consolidated gunshot fractures of the upper half of the femur.

The experiences of Austrian surgeons during the same war have not been collected, as far as I know, but from the report of cases in one or two medical journals, edited in Vienna, it is evident that a selection of cases was made in which to attempt to save the limb and in which to amputate.

Altogether, I think there is no doubt that the views of almost all the modern military surgeons, on this Continent and in Europe, drift to the point that there are many gunshot fractures of the thigh in which amputation, as a life-saving practice, must be rejected, and in which the indication is more or less clearly defined to save the limb.

The conditions favorable for saving the limb, as laid down by *Strohmeyer* and *Esmarch* among the German writers, are these:—

1. The ball has passed through the limb.
2. Shortness of the track of the wound.
3. Position of the wound more on the outer half of the thigh, distant from the large vessels.
4. Splintering not very extensive.
5. Fracture not lower than a hand's breadth above the articular line of the knee-joint.
6. The most favorable condition is, if the ball did not pierce the parts; when there is little difference from a simple fracture.

Circumstances unfavorable for saving limb and life:—

1. The ball and other foreign substances remain in the neighborhood of the fracture.
2. The ball has taken a rather oblique direction to the axis of the bone, making a long wound track, causing more extensive splintering, and rendering the drainage of secretions difficult.
3. The wound-track is situated near the large vessels, or the probing with the finger gives evidence that several fragments have been thrown in the course of the large vessels. Danger from phlebitis, thrombosis, and pyæmia.
4. Extensive splintering, indicated by great deformity and shortening.
5. As regards life, the lesion is the graver the nearer the trunk.

Contra, *Larrey, Sen., Demme*, rejects amputation the higher up the fracture has taken place.

As regards treatment, the authors cited above concur in the following rules:—

1. The extraction of loose fragments and foreign substances ought to be made before the swelling commences, and, if possible, under chloroform. Splinters adherent should not be removed.
2. The first dressing should be made on the field, and, if possible, after the adjustment of the dislocation.
3. If the first dressing be well done, it ought not to be disturbed in the hospital, if the pain, dislocation, and swelling be moderate.
4. If no dressing on the field was made, the patients are

generally received in the hospitals with limbs so swollen and shortened that no permanent dressing can do any good.

5. The dilatation of the wound with the knife is only indicated if there be considerable serous infiltration, and closure of the wounds from swelling. But even then bleeding and ice are frequently preferable, because the enlargement of the wounds admits air and favors the increase of suppuration.

6. Enlargement of the wounds is absolutely necessary where there is bloody infiltration.

7. Where the serous infiltration forbids the application of permanent dressing, the patient ought to be put on a good mattress in Pott's position.

8. Only after the swelling begins to subside, a thing that sometimes may take weeks to occur, is it time to think of making a change of position.

9. No rule can be given how the limb ought to be put definitely. The best rule is, not to lay too great stress on having a good shape of the limb, but to look to saving life and gaining consolidation.

*Strohmeyer* and *Esmarch* are both opposed to primary resection.

In the first year of the Schleswig-Holstein war, when *Langenbeck* was Surgeon-General, under the influence of the teachings of *Baudens* (*Clinique des plaies d'armes à feu*, Paris, 1836), the removal of splinters, loose as well as adherent, and the resection of the sharp ends of the fragments, was resorted to as a rule. Of three resections in gunshot fracture of the thigh, all died. Although this is too small a number to make a deduction, yet the comparison with gunshot fractures of other long bones, treated by and without resection, speaks for the latter practice as preferable. *Strohmeyer*, who succeeded *Langenbeck* 1849, from what he had already seen in Baden 1848, inaugurated this method.

Although not strictly pertaining to the matter under discussion, it may be permitted, Mr. Chairman, to give the results of both practices in gunshot wounds of long bones, other than the femur.

*Arm.*—1848, 9 primary resections. 4 died, of the 5 living a couple retained a very crippled limb.

1849. No resections. 7 cases, 1 died.

1850. No resections. 25 cases, 4 died. Use of limb in the 21 cases recovered perfect, of which one case of extreme splintering from a canister shot.

*Forearm.*—1848, 6 cases; primary resection; healing very protracted.

1849. 7 cases. 1 primary resection. Result the same. In the other 6 cases healing very rapid.

1850. 41 cases. No interference. All recovered except one who died of cholera. In 6 cases both bones, in 16 the radius, in 18 the ulna was shattered, 1 case not stated.

*Leg.*—1848, and part of 1849, 13 cases (3, both bones; 7, the tibia; 3, the fibula). Primary resection, 7 died (2 tibia and fibula, 4 tibia, 1 fibula).

Other part of 1849 and 1850. 58 cases (8 tibia and fibula, 27 tibia, 23 fibula). No interference. 52 recovered with good limbs. Of six who died, in 1 tibia and fibula; in 2 the tibia; and in 3 the fibula was shattered.

THE French Mexican expedition furnishes an additional example of the freedom of the negro race from the diseases which in hot climates exert so devastating an effect upon whites. M. Reynaud, Inspector-General of the Marine Force in Mexico, addresses a letter to the Academy of Medicine, in which he states that the last epidemic of yellow fever exemplifies the above fact, just as did that of 1862. While the yellow fever produced great numbers of victims amongst the Europeans employed at Vera Cruz and the fort St. Jean d'Ulloa, not a single death from this cause occurred among more than 600 soldiers and sailors from the West Indies, almost all of them yet undergoing the most trying labor.

## Original Communications.

### SEVENTEEN ADDITIONAL CASES OF AMPUTATIONS FROM THE ARMIES OF THE SOUTH-WEST.

By JAMES BRYAN, SURGEON, U.S.V.

ON GENERAL GRANT'S STAFF.

THE following cases were collected in the early part of September last, in the hospitals of Memphis, Tenn., at leisure intervals, while attending to the duties of an Examining Board in that city. The original paper which contained these cases and others, to the number of thirty, was mailed at Memphis on the 8th of Sept., but has failed to reach its place of destination. The present article has been drawn up from some of the rough notes, remaining in my hands, belonging to the former article.

These cases are offered as a continuation of those published in the MED. TIMES on the 4th of July last. I have therefore continued the enumeration in order to connect the present with that list.

It will be observed, first, that these are all necessarily successful cases—the reports being made from two to four months after the occurrence of the operations. Little, therefore, can be inferred in reference to the value of amputation or any class of amputations, as a means of saving life. To obtain this kind of information, the publication of all the cases operated upon, with their results, is necessary. Something, however, may be gained by reciting a series of different kinds of amputations, with the incidents connected with them, the general results of which are successful.

These cases present most of the peculiarities which are found in military surgery. The men, for instance, had generally been worn down by a long siege, fatiguing marches, and numerous battles. They had been subjected to all the privations of an active campaign, and some of them to those of several, being deprived of the usual camp equipage, bivouacking, and being exposed to the weather and irregular rations for months previous to the occurrence of the wounds which made the amputations necessary. The climate and the season were well calculated to debilitate and poison their systems; thus preventing the healing process from taking place, in tissues exposed to violent solutions of continuity. In addition to all this, many of them had been transported four hundred miles in hospital boats, from the battle-fields to Memphis; most of these cases were operated upon before being removed from the field; and were subjected to the inconveniences of transportation immediately after suffering their amputations. Others were operated upon after their removal, and therefore were subjects of what is always considered a dangerous expedient, viz. a secondary operation. The following facts may, perhaps, be gleaned from the perusal of these cases: first, gangrene, erysipelas, and other forms of the degeneration of the tissues, producing losses and non-union of the latter, are apt to follow operations performed under the circumstances above recited; 2. These conditions of the injured tissues are most apt to follow in localities where the white tissues prevail near the distal extremities, especially near the ankle and wrists; 3. That after an uncertain period, generally two or three weeks—sometimes longer—where the patient enjoys the necessary conditions calculated to restore the health of the system, this tendency ceases, and the recuperative forces of the constitution cause the wounds to heal healthily. In these cases secondary or even tertiary operations may be necessary. 4. Although I have not recorded the fact, most of these cases were young men between the ages of 18 and 25 years. They were therefore, except as far as the conditions above mentioned go, in favorable circumstances for health. 5. These cases show, especially the first sixteen which I have published, that our military surgeons are generally favorable to the double flap operation, in pre-

ference to the circular. It will be found, I think, that the circular operations are preferred by the older members of the profession, especially when performed on the thigh, and that the younger ones resort more frequently to Liston's method. The Continental Europeans appear certainly to prefer the old methods. Both of these modes, both in the army and out of it, have doubtless been abused, by careless and ignorant practitioners. 6. Several cases of severe gunshot wounds of the knee-joint are reported in this series, treated successfully by amputation of the thigh. In collecting these cases I have necessarily fallen upon many interesting ones of resection, which I have not reported, but which, if reported, would present an opportunity of deciding on the relative value of these two modes of operating.

#### CASES AT GAYOSA HOSPITAL, MEMPHIS, TENN.

**CASE XVII.**—George Kern, private, Co. A, 8th Indiana, was wounded in the left foot at Vicksburg, May 23d, and underwent secondary amputation in the lower third of the limb. The circular form was adopted. The stump was attacked by erysipelas; but at this writing, Sept. 1st, it is nearly well, and the patient is reported as recovered.

**CASE XVIII.**—Samuel Olean, corporal, Co. K, 10th Iowa. This was a case of gunshot fracture of the right wrist, involving the lower end of the radius. Secondary amputation by circular operation was resorted to in the lower third of the forearm. The wound was received at the battle of Champion Hills, May 16th. The patient was brought to Memphis, where the limb was attacked with sloughing, and secondary amputation was performed. The patient did well, and the wound is nearly healed.

**CASE XIX.**—Stephen Brayton, private, Co. A, 10th Ill. Gunshot wound in the right hand, received June 26th, at Vicksburg. An attempt was made to save the hand, but without effect. The bones were denuded by sloughing, and fractions of them were removed in two several operations. It was finally resolved to amputate the forearm, which was done, by circular operation, in the middle third. The wound has healed kindly, and the ligatures have all come away.

**CASE XX.**—Louis Cazeau, private, Co. B, 113th Illinois. This was a wound of the right arm by a cannon ball, received May 28th at Vicksburg. Primary amputation, by circular operation, was performed in the middle third of the arm. As in many other of these cases, gangrene took hold of the stump, and for a time threatened to denude the bone. But, by careful dressing, and the use of nitric acid externally, and iron internally, together with stimulants and a generous diet, the patient has finally recovered.

**CASE XXI.**—Giles Marsh, corporal, Co. G, 17th Iowa. A gunshot wound of the foot, fracturing several of the bones, was received at Champion Hills, May 16th. After some time had elapsed, in an attempt to save the whole foot, an excision was resorted to, which involved the four small toes and metatarsal bones. The wound healed kindly, and the patient has recovered, and has a comparatively useful foot.

**CASE XXII.**—S. L. Morse, private, Co. E, 24th Iowa. This was a gunshot wound of the right knee-joint, received May 16th at Champion Hills. Primary amputation of the thigh in the lower third, by double operation, was resorted to. In this case, again, the soft parts were attacked by gangrene, which was arrested by the usual treatment, viz. nitric acid externally, iron and stimulants internally. The wound has healed, and there remains now only a little tenderness.

**CASE XXIII.**—Jas. N. Underwood, private, Co. B, 8th Indiana.—The patient was wounded at Vicksburg, May 23d, in the left forearm. The bullet passed through the arm, fracturing both bones. Primary amputation, by the circular method, was performed in the upper third of the forearm. Here again, erysipelas and gangrene attacked the stump. The patient, however, has recovered, and the stump has now healed.

**CASE XXIV.**—John Garing, private, Co. F, 10th Iowa. This was a gunshot fracture of the left forearm. The patient was wounded at Champion Hills, May 16th. Secondary amputation was performed in the middle third by the double lateral flap operation. This case recovered without accident.

**CASE XXV.**—Charles Schroeder, corporal, Co. I, 127th Illinois.—A gunshot wound of the right foot, received at Vicksburg, May 13th. Secondary amputation was resorted to in the lower third of the limb. Antero-posterior flaps were made, which covered the ends of the bones. These flaps sloughed off twice, and the bones were as often shortened by the saw. The patient, however, is now doing well, and is classed among the convalescents of the hospital. This is another case among those already recorded, proving the insufficiency of the tissues in the lower third of the leg to bear accidents, involving their integrity after amputations. As accidents, such as mortification, erysipelas, retraction of the tissues, &c., are almost sure to occur in military surgery, it is easy to understand why these amputations should be less successful in the army than in private practice.

**CASE XXVI.**—Francis Rossa, private, Co. G, 24th Iowa. This man was wounded May 16th, at the battle of Champion Hills, producing a gunshot fracture of the right forearm. Primary amputation was performed in the upper third of the forearm. Gangrene attacked the soft parts, denuding the bones, making it necessary to amputate the second time. This latter operation was performed by circular operation, August 15th, in the lower third of the arm. Since that time the patient has done well, the wound has healed and the ligatures have come away.

**CASE XXVII.**—Lafayette Jones, private, Co. E, 25th Indiana.—This young man was wounded at Memphis, July 11th, while on patrol duty. He received a gunshot fracture of the tibia in the upper third. An attempt was made to save the limb, but the violence of the inflammation and the extent of the fracture rendered it impossible. Secondary amputation was performed in the lower third of the thigh (the right) by double flap. The tissues united kindly, and the wound has now almost entirely healed.

#### CASES IN THE JACKSON HOSPITAL, MEMPHIS, TENN.

**CASE XXVIII.**—Matthew Brockway, Co. I, 47th Ohio. Wounded at Vicksburg, June 22d, by the falling of a tree on his leg, producing fractures of the tibia and fibula in the middle third. Amputation was performed on the field the same day, a short distance above the fracture. This case is under treatment, the bones being slightly exposed.

**CASE XXIX.**—Christopher Shafer, Co. D, 7th Illinois Cavalry. Wounded in the knee-joint by a minié-ball, fracturing the bones, and injuring the soft parts. The casualty occurred on the 21st of August last, at Coldwater. The limb was amputated in the Jackson Hospital at Memphis, on the 24th, by Dr. Wasson, in the lower third of the thigh. The case is doing well, and nearly healed.

**CASE XXX.**—David P. Wallis, Co. A, 42d Ohio. This is another gunshot wound in the knee-joint by a minié-ball, producing fracture of the bones, and lacerations of the tissues. It occurred July 11th, at Jackson, Miss. Amputation was performed on the field, in the lower third of the thigh. It is a successful case, the wound having entirely healed. The surgeon performed the circular operation.

**CASE XXXI.**—Peter Heckert, private, Co. E, 120th Ohio. Wounded in the knee-joint by a cannon-ball, fracturing the bones. It occurred July 10th, at Jackson, Miss. Amputation was performed on the field, the day of the accident. The operation was done in the lower third of the thigh. The wound, although not yet entirely healed, is doing well.

**CASE XXXII.**—George Culloner, Co. D, 83d Ohio. A gunshot wound of the ankle, occurring at Champion Hill, May 16th. The joint was very much injured, and amputation was performed on the 4th of June, on board the steamer, while on his way to Memphis. The operation was performed in the middle third of the leg. The wound is not yet entirely healed; the patient is under treatment.

**CASE XXXIII.**—First Lieutenant Frederick Fisher, Co. K, 47th Ohio Infantry, aged 26 years. Wounded at Vicksburg, May 19th. A gunshot wound involving the knee and lower part of the right thigh. Amputation by circular operation was performed May 20th, at the junction of the upper and middle thirds of the limb. The wound in this case did very well, until one day, the patient, in attempting to move on his crutches, slipped and fell. The fall injured the soft parts and uncovered the end of the bone. The wound has now, however, nearly healed again, and the patient is doing very well.

#### NELATON'S PROBE, WITH CASE.

By F. H. HAMILTON, JR., M.D., A. A. SURGEON, U.S.A.

This excellent little instrument has not been brought into the general use and appreciation to which it is already entitled; indeed, its value was fully declared when on its first trial; and in the person of the illustrious Garibaldi, a problem was solved, which had puzzled the most skilful European surgeons. The records of this hospital show several cases where Nelaton's probe has discovered the presence of lead, and, in one case, of iron, where their existence was never suspected, certainly not known. Thus a grapeshot, weighing 2 oz., was discovered, and removed by Dr. James B. Cutter, from the calf of the leg—the patient previously averring that the ball had gone "clean through." In this case the iron, being rusted, left upon the probe a brownish stain. In the following case the instrument discovered the presence of lead.

M. G., private 7th Connecticut Vols., was admitted with a gunshot wound of the left leg, a short distance above the ankle-joint. His medical attendants upon the field had informed him that the ball had merely glanced across, but had not entered the bone. The patient was firm in his belief that there was no ball in the wound. Three months after the receipt of the injury, when under my care, at the McDougall General Hospital, the wound showed no signs of healing; and this fact, together with the thin, dark-colored discharge, led me to suspect the presence of some foreign body, other than dead bone, notwithstanding the statements of the patient to the contrary. I therefore introduced one of Nelaton's probes, and carefully explored the cavity. Removing the probe, and washing off the blood, I found the presence of lead indicated by several marks on the porcelain. Soon after I enlarged the wound, and, cutting down into the tibia on its outer surface, found a small opening into the bone, where the ball had entered. With some difficulty, I then extracted from the substance of the bone, where it was firmly impacted, an entire minié rifle ball, slightly flattened at its apex. I also removed some pieces of dead bone.

After this the wound proceeded to heal kindly, and was soon entirely closed. Necrosis had already occurred in consequence of the presence of the foreign matter, but by its removal the further extension of the necrosis was prevented. These cases would scarcely, in themselves, be of sufficient importance to merit a special record, were it not that they, as well as any others, serve to illustrate the great value of the instrument. The negative evidence furnished by the probe is often as valuable as the positive, for if, upon a thorough and skilful examination of the wound, we fail in obtaining the evidence of lead or iron upon the probe, we are far more confident in asserting that there is no such foreign substance remaining, than we should be after such an examination with the common gunshot probe.

After withdrawing the probe, the blood, pus, or other matter should be removed, by carefully passing the porcelain ball through a basin of clean water three or four times; when the marks, if there be any, of lead or rusted iron will be left plainly defined upon the surface of the bulb. Of course, these marks should be carefully removed before using the probe again.

It would be well, I think, for each surgeon in the United States service to be furnished with at least two different sizes, one of which ought not to be more than one-eighth of an inch in diameter, and which might be used in searching for buckshot, or in traversing channels made narrow by swelling of the tissues; and the other ought to be about one-quarter of an inch in diameter. This little size, I am satisfied, is large enough for any purpose for which it may be used. If intended for a pocket case, the handle or shaft of the instrument may be made in two pieces, to be screwed together, by which means its length may be increased: or it may be made to fit on to the gunshot probe. If the surgeon prefers, also, the two porcelain balls of different sizes may be fastened upon the opposite ends of the same probe, or upon two probes which may be screwed together, by which the length of the instrument could be doubled at pleasure. When the instrument is kept in a pocket-case it ought always to be protected by a neat, securely fitting leathern or gutta-percha case, such as I have seen made by that ingenious instrument-maker, Mr. Tiemann, of New York.

In my opinion this probe ought to be added to the instruments which the government supplies as an outfit to the army surgeons.

McDOUGALL GEN. HOER., Nov. 14, 1868.

## CHRONIC HEREDITARY CHOREA.

By IRVING W. LYON, M.D.,

HOUSE PHYSICIAN, BELLEVUE HOSPITAL.

THE writer has been familiar from childhood with a type of chorea so unlike in its *origin* to anything described in our standard text-books, that the publication of a few facts in relation thereto has been thought advisable, not only as a matter of interest to the reader, but more especially for the purpose of eliciting the observations of any who may have met with indications of kindred significance.

The peculiarity of origin claimed for this type consists in its hereditary transmissibility: this claim we will endeavor to support by the following facts and considerations:—

The disease, as we have been accustomed to observe it, is known in the community by the name of *migrims*. Of the origin or derivation of the term but little can be ascertained, except the conjecture that it may be a corruption of *megrim*, which word, to say the least, is very inexpressive of any leading character of the malady, which is chorea *in toto*, consisting of "irregular action of the voluntary muscles, when stimulated by the will," and marked by an obstinate chronicity.

It is confined almost exclusively to certain families, so that such are popularly denominated the "migrim families;" and the children of parents affected with this disorder are very liable to become the subjects of its manifestations, and in turn transmit it to their offspring. So strong is the conviction of its hereditary influence that the people among whom it occurs believe this to constitute its only legitimate method of propagation, and acting accordingly, have repeatedly been known to interdict marriage alliances between their children and those believed to be tainted with the migrim diathesis, under the severe penalties of disinheritance and social ostracism. It is, however, regarded by many as a disgraceful disease; for what reason it would be difficult to understand, unless we admit the influence of a tradition that ascribes the ultimate origin of the disease to a visitation upon those who reviled and mimicked our Saviour while undergoing crucifixion, that they and their children were ever after affected with choreal irregularities.

Not only do those exempt from the supposed diathesis insist upon its hereditary nature, but even those in whom the disease is manifest are free to admit the same thing, and in one instance a gentleman obligingly volunteered to furnish proof of its existence in his own family for several successive generations.

Aged and very intelligent medical gentlemen, who have practised for the greater part of their professional lives in communities where the so called migrims prevail, testify that they entertain no doubt of its hereditary communicability.

We subjoin the histories of three cases.

CASE I.—Mr. A., residing in the town of —, county of —, N. Y., has well marked chorea, which is quite general; so that he is constantly, when awake, making irregular movements with the upper and lower extremities, facial muscles, and more or less with those of the body. This condition has existed for many years, but seems not to interfere materially with his general health, the vegetative functions being well performed. Mr. A. has two brothers and three sisters; the two brothers have themselves never had any choreal symptoms, but one of them has two children in whom well defined chorea has existed for many years; of the three sisters, two have had chorea for the most of their lives, being now past the middle age.

The progenitors of Mr. A., on the male side, were perfectly free from chorea, but not so on the maternal side; his mother had well developed choreal manifestations from early life, which continued till her decease; she had also a brother who died during adult life from the severity of the disease; but to go still further, both the grandfather and great-grandfather of Mr. A., on the maternal side, had the same disorder which we find in their children: whether collateral instances of the affection occurred in the families we are not advised.

II.—Mrs. K., of the town of —, Ct., and a descendant from a family which has long been known and designated as migrim, had chorea for the most of her life, being about seventy-five years old at the date of death. She had a family of two sons and three daughters: of these one son and two daughters had chorea, with which disease they attained an advanced age; no satisfactory information can be readily obtained in relation to the offspring of the son and one of these daughters so affected; but the other daughter married, and had a son, who is now forty years of age, in whom chorea has exhibited itself from puberty.

III.—Mrs. W., formerly a resident of —, county of —, N. Y., had chronic chorea, and lived to an advanced age. She stated that her mother was affected with the same disease, together with her mother's father.

To these cases many more might be added, were they deemed necessary to establish the claim premised; let us briefly recapitulate:—

*First.*—The deep-seated popular belief in the hereditary nature of the disease. Such an argument, it may be urged, is unphilosophical, and popular notions of disease should not be accredited by professional men. But such an objection cannot well be urged here, since the truth of the matter can only be arrived at by observation; and as the symptoms of chorea are patent and easy of cognition to all, we conclude the testimony of any intelligent observer of this disease to be valid and worthy of credence, whether he be educated in the medical profession or not.

*Second.*—The above reason derives additional support from the acknowledgments of those affected with the disease, for it must be a thorough conviction, that would lead a person to avow a hereditary vice of constitution, which is at once injurious to his reputation and prospects in life; and

*Third.*—The supposed objections to the first are answered, and it together with the second reason substantiated by the testimony of medical men conversant with the disease. So much for the moral; now for the demonstrative evidence.

We have cited one instance in which chorea was shown to have occurred in a family through five successive generations, and in different persons of the same generation; this is a phenomenon too remarkable to be explained in any other way than the one proposed, and although the first and second cases do not go so far, still they cannot mean anything less than what is claimed for the first case. It

may be well to state, in this connexion, that the advantages for investigating the two last cases were not such as would enable us to decide whether the disease could be traced further back or not.

In conclusion, we would again invite the publication of any facts which may assist in elucidating this subject, for it certainly is one of real interest; and as we know that many physicians are daily observing just what has been described, we are confident that some new and acceptable offering will be made from such sources.

BELLEVUE HOSPITAL, Nov. 17, 1893.

#### ON A NEW

#### METHOD OF PERFORMING IRIDECTOMY.

By JULIUS HOMBERGER, M.D.,

NEW YORK.

A GREAT difficulty in performing iridectomy for the purpose of diminishing intra-ocular pressure, consists in the removal of the iris to its ciliary insertion. Another necessity, which is also not easily accomplished in many cases, is the excision of a large piece of the iris. As it is necessary to go far beyond the margin of a dilated pupil with a lanceolar knife, in order to get a large corneal wound, the danger arises of injuring the lens, which is considerably pressed forward in glaucoma. Again, the instances are not rare where even experienced assistants fail to cut off the iris to the edge, and thus cause a negative result of the operation.

It is not my intention to analyse or to criticise the different modifications which have been invented by Von Graefe, Arlt, Froebeli, Bowman, and others, with a view to do away with these difficulties. No practical eye-surgeon will deny that, in spite of all modern propositions, the execution of iridectomy is still attended by the above-named inconveniences. Therefore, though the method which I am going to describe has not yet stood the test of numerous experiments on living subjects, I do not hesitate to recommend it to the readers of this Journal for further trial, confiding in the easiness of its performance and the certain results which it seems to promise.

With a cataract knife, the point of which, directed towards the centre of the globe, is pushed into the sclerotic at a distance of half a line from the margin of the cornea, a linear opening is made, which, by mere pushing forwards of the knife, is lengthened in a radial direction, until the cut reaches three-quarters of a line beyond the edge of the cornea. During the performance of this cut the back of the knife does not for one moment leave its direction towards the centre of the eyeball. The knife is then gradually withdrawn, so that the aqueous humor is slowly evacuated. By this first act of the operation the anterior chamber is opened, and the iris fissured, from its ciliary insertion, up to a point about half a line distant from its periphery.

The second act of the operation consists in the introduction into the wound of one branch of a fine, but strong pair of scissors, slightly curved laterally. The point of one branch of the scissors is introduced along the posterior surface of the cornea into the anterior chamber, and its cutting edge laid into the angle formed by the junction of the iris and cornea. By one or two movements of the scissors, a wound is produced corresponding with the size of the piece of the iris which is intended to be removed. It will be necessary, in order to introduce the scissors far enough, to enter first but a little way into the wound made by the knife, and to enlarge it by a small, almost rectangular incision.

In the third act, a common iris-forceps is introduced into the anterior chamber, but not in a diagonal direction, as usually. With its points the operator takes hold of that part of the iris next to the angle of the wound, and, by a slight traction (in the direction of a tangent touching the margin of the cornea in the wound), he tears the already fissured iris up to the pupillary margin, and then, by conti-

nued pulling, he severs it from its ciliary insertion. As soon as the iris is torn off up to the opposite angle of the corneal wound, the operator himself, or an assistant, removes the separated segment of the iris, with either knife or scissors.

The advantages of this method I wish to condense in the following points, and would be glad if by my proposition of a more convenient way of performing iridectomy I had contributed a mite to the universal diffusion of this important operation.

1. The opening in the anterior chamber is made in such a way that the instruments do not in any way come in contact with the pupillary region, and there is therefore no danger of injuring the lens.

2. The inner edge of the corneal wound is made with much more certainty in the junction of iris and cornea than with either knife or lance.

3. The tearing of the iris from its insertion loses by the previously made fissure of that membrane the danger of an accidental dialysis, while it insures a peripheral pupil with more certainty than if the iris is cut off after having been dragged out in the manner hitherto practised.

4. The cutting off of the iris may be performed by assistants of little experience, because, even if well executed, it does not, as in the usual methods, make it dangerous or even impossible to resume hold of the iris.

Finally, I may be permitted to remark that I do not consider the division of some fibres of the ciliary muscle (Hancock) of great therapeutical importance, but that I think, that the angular opening, which allows a part, at least, of the aqueous humor to escape for some time, is very favorable to a gradual diminution of intra-ocular pressure. The importance of a compressive bandage during the after-treatment, may, by this circumstance, be considerably lessened, or even totally annulled.

24 West 12th St., N. Y., Nov., 1893.

## Reports of Societies.

### NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, Dec. 2, 1893.

DR. JAS. ANDERSON, PRESIDENT, IN THE CHAIR.

REVIEW OF UNITED STATES PHARMACOPOEIA.

PRIMARY LIST.—Continued.

DR. E. R. SQUIBB, of Brooklyn, continued his review of the Pharmacopoeia, and first alluded to some articles in the primary list, which he had omitted to mention at the previous meeting.

*Alcohol Fortius* (stronger alcohol) was introduced as a solvent for iodine and like substances.

*Alcohol Dilutum* is the stronger alcohol diluted one-half with water.

*Aurantii flores* is used for making the orange flower water, a useful substitute for the ordinary rose water.

*Cadmium* is introduced for making the sulphate of that metal.

*Coffea* (ground coffee) is added on account of its antidotal effect in opium poisoning.

*Canna* is an addition to the fecula.

*Ferri Sulphuretum* is introduced for making the sulphureted hydrogen, which is so frequently used as a test.

*Leptandra* is a remedy for trial. It is an emetico-cathartic, and eclectics contend that it is a substitute for calomel in its action on the lower and upper part of the canal.

*Matco* is also on trial as an aromatic tonic and stimulant. It possesses no astringent properties.

*Nectandra* has the properties of being antiperiodic and febrifuge. Its active principle is hiberine, and is used in the form of a sulphate; it does not excite the circulation or the nervous system like quinine.

*Soda Sulphis* (sulphite of soda) is introduced as a convenient form of applying sulphurous acid in various cutaneous affections, where the pure acid is too irritating.

*Syrupus Fuscus* (molasses) is made official that it may be written for.

This completes all the new introductions into the primary list.

#### SECONDARY LIST.

*Achillea* (yarrow) is an antiperiodic and tonic. On trial. *Angelica* is the root of the *Angelica Archangelica*, and not of the *Angelica Atropurpurea*.

*Berberis* (barberry), root of the *Berberis vulgaris*, is a tonic and purgative.

*Brayera* (koussou) is the celebrated remedy for tape-worm. It is given in powder after a purgative, and while fasting.

*Delphinium* (larkspur), seed changed for the root.

*Euonymus* (wahoo), on trial as a diuretic and tonic. It destroys vermin in the hair effectually.

*Gelseminium* is an indigenous plant, and is said to be an energetic nervous tonic without astringent, nauseating, or purgative properties. There is claimed for it also the property of reducing the force and frequency of the pulse.

*Gossypii radix* (cotton root) is intended as a substitute for ergot.

*Hydrastis* possesses energetic tonic properties.

*Rottlera* (kameela) is a cathartic vermifuge, and may be used in lieu of koussou or pumpkin seed in tape-worm.

*Scutellaria* (scull cap) is an antispasmodic, and is considered as a specific for chorea. It is used in infusion.

ACETA.—*Acetum Lobeliae* is a preparation which is the most convenient for preserving the active principles of the plant. The same may be said of *Acetum Sanguinariae*.

*Acetum Opii* is changed in formula but not in strength.

ACIDA.—*Acidum Hydriodicum dilutum* is a valuable preparation of iodine when the stomach is irritable. *Acidum Muraticum dilutum* is introduced for foot-baths, and should always be used fresh. *Acidum Phosphoricum dilutum* is a valuable nervous tonic. *Acidum Sulphurosum* (sulphurous acid diluted with water) is used as an application for the destruction of parasitic growths. *Acidum Valerianicum* is for making the valerianates.

ÆTHERA.—*Æther Fortior* is the pure ether, and *Chloroformum purificatum* the pure chloroform, both of which are used for anæsthetic purposes.

The Academy then adjourned.

### NEW YORK COUNTY MEDICAL SOCIETY.

STATED MEETING, December 7, 1863.

#### MORTALITY OF THE CITY.

THE Committee on Diseases submitted the following report for the past month. The whole number of deaths during the four weeks ending Nov. 16, was 1747, a rather high degree of mortality. The males, as usual in cities, are in excess, being 940 to 807 females. Of the total number 1047 were natives and 676 of foreign birth. But in extraordinary contrast with this item is the fact often alluded to in our report, that while the native population of New York is nearly double the foreign population, yet the death of children of foreign-born parents is more than seven times that of children of American parents. Thus our present figures of this item stand 87 American parented children died to 653 children of foreign parentage. The indefinite heading "Infantile Convulsions" foots up to 103; then come "Dropsey of the Head" and "Infantile Marasmus," 160. How many maladies are lumped together in the inspector's reports, cannot be guessed. The City Inspector lays the blame of such imperfect classification of disease upon the medical profession of the city, who in most cases write their certificates so as to allow more than one diagnosis. But in his list, inflammation of the bowels is a heading by itself, soon followed by that of diarrhoea and dysentery, and the cholera infantum. The deaths from

bowel affection number this month 147, a high figure for the season of the year.

Affections of the lungs, or congestion, inflammation, and bronchitis, each of which has a separate heading, are high—140—but not especially so for the season. The deaths from phthisis are above the average, viz. 288. Croup also is more than usually fatal, numbering 106. The past month has been remarkable for obstinate catarrhal affections, which doubtless have produced an effect on the bills of mortality. Virus diseases are unfortunately quite prevalent, 54 deaths are reported from scarlatina, 75 from diphtheria, and 81 from typhus and typhoid fevers. The increase from week to week in diphtheria and typhus is so steady that we seem to be threatened with an epidemic of these maladies during the winter. Measles prevail but moderately, only three being reported, and a like figure from small-pox.

(To be Concluded.)

## American Medical Times.

SATURDAY, DECEMBER 19, 1863.

### FEE AND CONTRACT SYSTEM.

PROFESSIONAL REMUNERATION, perhaps, more vitally interests the mass of American physicians than any other question which can be presented for their consideration. As a people, we are reputed to hold the almighty dollar in profound respect, and as a profession we are not exempt from the national scandal. For the most part we have reduced the practice of physic to a mere matter of business. We measure success by the amount of income, and are strongly inclined to gauge professional excellence by the same standard. The subject of the present article, therefore, possesses peculiar interest, and will doubtless attract the attention of many readers who rarely honor us with a notice.

At the last meeting of the Association for the Promotion of Social Science (England), a communication was read, which advocated the adoption of the contract instead of the fee system by the medical profession. The plan recommended was to dispense with the fee system, and to pay the doctor so much per annum, to include all ordinary work, and a fee to be paid for extraordinary work. Ordinary work was defined to mean periodical visits, attending to the health of the patient, etc.; and extraordinary work was held to be such exceptional services as calls to attend on patients immediately, accidents, and so on. This arrangement, it was considered, would make prevention as well as cure the object of the doctor's care, and assimilate the interests of the physician and patient.

This question has excited a lively discussion in the medical journals, and various are the arguments, pro and con. On the one hand it is alleged that if the physician make a contract of this nature he degrades his calling to the level of the common tradesman; that he is liable to be compelled to an excess of duty by being called when there is no need of his services; that it would lead to dissatisfaction of either patient or physician—of patient, if there was no sickness in the family, and of the physician if there was too much sickness. In favor of this plan it is alleged that it will "prevent many of those disgraceful insinuations which have been brought against medical men of 'creating practice,' of paying unnecessary visits, of perverting hospitalities to the purpose of their profession; and when the



guest playing the doctor," "that it would be so far mutually beneficial, that, while the patient would have no hesitation in sending for the medical attendant at the earliest indication of illness, the practitioner would, on the other hand, feel more reserve in exercising his discretion in the payment of visits, the purposes of which could no longer be misunderstood."

The objections which are urged to the contract plan practically have no foundation. It does not degrade the medical attendant any more to have a stipulated price placed upon his annual services in a family before than after that service is rendered. The "time-honored and respected honorarium," so sacred to many, has equal value in both cases. Besides, how frequently does the physician stipulate to attend infirmaries, dispensaries, manufactories, and life insurances for fixed annual salaries. In these instances, so common in the profession of every town, the contract plan is adopted without even the thought of professional degradation. The allegation that it would lead to overwork would not prove true if the contract exempted, as it ought, all special attendance, as at night, in cases of accident, &c. The arguments in favor of the contract plan are plausible, and deserve to be well weighed. It secures the payment of the services of the physician much more certainly than the fee system. In a far less number of instances we are assured, is the payment withheld under the former than under the latter system. The obligation of the patient may not be any greater morally under one than under the other, but legally he is bound by the contract to make prompt payment. The freedom of the physician to visit the family and prolong his attendance upon the sick is secured by the contract. His visits are not carefully noted, nor is it even intimated to him that his services are not required in a case of convalescence.

But, perhaps, the strongest argument that can be adduced in favor of the contract is, that the physician assumes under it the highest and most dignified functions of his profession. His aim now is to prevent disease; he is now not always called to cure the sick, but he has a higher duty, viz. that of preserving the health. He visits his families as a hygienist; he attends carefully to the conditions which surround the family circle, and corrects any tendency to disease. The dwelling is often examined, and proper ventilation, drainage, &c., secured; the foods are inquired into, and those selected adapted to each member of the family; the clothing is inspected, the right material advised, and the proper style directed. In a word, the physician becomes a house-to-house visitant, advising and directing in all matters pertaining to the health of the occupants. It cannot be doubted that were this system generally adopted the sum of sickness and mortality would be greatly diminished.

The details of the contract plan are made up by the parties themselves. The special sum stipulated must depend upon the size of the family, and the conditions peculiar to each. But there is no reason for making the price less than the sum total of annual fees under the present system. We are informed, on the contrary, by those who have had experience, that it is generally greater.

We have introduced this subject to the attention of the profession as one of considerable importance, and we hope it will be freely discussed. The contract plan is already adopted by some practitioners among us, especially the Germans, and is generally highly approved. If universally adopted, it may prove to be a most beneficial medical reform.

## THE WEEK.

THE *British Medical Journal* thus notices the meeting at Geneva, Switzerland, for the formation of a system of aid to the wounded in war:—

"The groans of the wounded after the battle of Solferino and of other battles of the last Italian campaign, were heard of with deep sorrow at Geneva as well as elsewhere. So deeply were the Genevese impressed with the miseries attending the wounded, that they resolved to form a society for the purpose of administering relief on future occasions of the kind, on a scale equal to the demand. This society has held a meeting at Geneva to which delegates were invited from all the leading governments in Europe. The invitations were warmly accepted; and England was represented by Inspector-General Rutherford who was officially sent there; Austria sent Dr. Unger; France, MM. de Pieval and Bondier; Prussia, Drs. Loeffler and Houselle; and so on. A series of resolutions were passed to the effect, that committees should be formed in all countries to provide for the health of the army; and that such committees should be in relation with their respective governments; that in time of peace the committees should organize a system under which they would be ready to act in case of war; that during war, the belligerent nations should furnish contingents of volunteer assistants; that the expenses of these assistants should be paid solely by their respective committees; and that they should wear a red cross on a white coat as the badge of their service," etc.

The annual oration before the Academy of Medicine was delivered on Thursday evening, Dec. 10th, at the hall of the University College, by PROF. JOHN W. DRAFER. The subject was the Influence of History upon the Medical Profession, and it was treated by the distinguished orator with the most consummate ability. His studies of history enabled him to illustrate his subject with many exquisite sketches, and enrich it with philosophical deductions. The audience was large and select, and received the address with great favor.

The condition of the Federal prisoners at Richmond has been greatly improved by the contributions sent from the North. There has also been some action taken by the Rebel authorities. The Rebel Commissary who had subjected the prisoners to starvation was denounced in their Senate in the most unmeasured terms, and has been removed. From COL. SANDERSON, formerly of New York, and now a prisoner at Richmond, we have the gratifying assurance that the supplies from the North were faithfully distributed.

OUR esteemed correspondent, Dr. Parigot, has met with what turned out to be an amusing "episode de voyage." Travelling through Ohio he was arrested by the Provost-Marshal, and his aids, as *John Morgan*, and his two travelling companions as *John Morgan's* officers. The Doctor, after considerable trouble, proved his identity.

THE LEOPOLDINO-CAROLINIAN ACADEMY.—This body, of which Dr. Carus, of Dresden, is now President, so well known to the scientific world by its important *Acta* and *Nova Acta*, at the present time numbers 570 members. Of these there are 333 in Germany, 46 in France, 34 in England, 27 in Italy, 5 in Spain, 2 in Portugal, 4 in Hungary, 5 in Denmark, 7 in Sweden, 30 in Russia, 2 in Poland, 16 in Switzerland, 24 in Holland and Belgium, 13 in Asia, 4 in Africa, 20 in America, and 2 in Australia.—*Med. Times and Gazette*.

## Reviews.

**MANUAL OF INSTRUCTION FOR MILITARY SURGEONS, ON THE EXAMINATION OF RECRUITS AND DISCHARGE OF SOLDIERS.** With an Appendix containing the Official Regulations of the Provost-Marshall-General's Bureau, and those for the Formation of the Invalid Corps, etc., etc. Prepared at the request of the U. S. Sanitary Commission, by JOHN ORDRONAU, M.D., Prof. of Medical Jurisprudence in Columbia College, New York. Van Nostrand, 1863. Pp. 238.

**A MANUAL OF INSTRUCTIONS FOR ENLISTING AND DISCHARGING SOLDIERS.** With Special Reference to the Medical Examination of Recruits, and the Detection of Disqualifying and Feigned Diseases. By ROBERTS BARTHOW, A.M., M.D., Assistant-Surgeon U. S. Army, Surgeon in Charge of McDougall General Hospital, Prof. of Medical Jurisprudence, Army Medical School. Adopted by the Surgeon-General for Issue to the Medical Officers of the Army. Philadelphia, J. B. Lippincott & Co., 1863. Pp. 276.

At the commencement of this war we had but a single Manual (Henderson's) on the duties of the medical recruiting officer, and that was but the merest synopsis. There has been a demand for a work more comprehensive, and still not so elaborate as to be removed from the class of manuals. Two works almost simultaneously appeared, both of which aimed to supply this deficiency.

The work of Prof. ORDRONAU was prepared at the request of the U. S. Sanitary Commission, and is brought forward as a contribution to Military Medical Jurisprudence. The author states that "the manual is, for the most part, a free translation of the French code," with however such reconstruction of certain parts, and alterations, as to adapt it to the use of the American profession. The first five chapters are devoted to general considerations, and the remainder to a careful examination of individual diseases. The arrangement of subjects is such as to admit of easy reference. Each individual disease is briefly described, and the special causes are given for exemption or discharge. The work is written in a compact but clear and forcible style, and is a most useful guide to those engaged in recruiting. Prof. O. deserves commendation for his labor in preparing this useful manual. The learning and ability exhibited in its preparation sustain the well earned reputation of the author.

The work of Dr. Bartholow is not so full as that just noticed, nor is there that completeness in the detailed treatment of individual subjects. It is, however, more decidedly an American work, as the author bases his conclusions very much upon statistics gathered in this country. The author has aimed to adapt the manual to the wants of the surgeon, and he has succeeded in his design. The work is divided into four sections, as follows:—1. Real Disqualifications for Military Service; 2. Pretended Disqualifications for Military Service; 3. Enlisting Soldiers; 4. Discharged Soldiers. It closes with a glossary.

We regard these works as very important additions to our military medical literature, and recommend them as safe and valuable guides to those engaged in the army service.

**SYNOPSIS OF THE COURSE OF LECTURES ON MATERIA MEDICA AND PHARMACY,** delivered in the University of Pennsylvania; with three lectures on the *modus operandi* of medicines. By JOSEPH CARSON, M.D. Third Edition, Revised. Philadelphia: Blanchard & Lea, 1863. Pp. 244.

The bulk of this work is a synopsis of the author's annual course of lectures on *Materia Medica*, and possesses little interest except to his immediate students. In the latter part we find three lectures on the *modus operandi* of medicines, in which the author brings forward the usual proofs of their action through the nervous system and by absorption.

## Correspondence.

### RHINOPLASTY IN AMERICA.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—The recent performance of an important operation in the New York Hospital, by Dr. G. Buck, for repairing an extensive injury of the face, has led to our ascertaining the fact, not, we believe, generally known, that *the honor of first performing rhinoplasty in this country* belongs to our respected fellow citizen, Dr. I. P. Batchelder, and it is due to him, as well as to the history of the operation and the credit of American surgery, that it should be placed on record.

We observe that on the list of rhinoplastic operations performed in this country, in Mott's *Velpéau*, p. 626, vol. 1, Dr. B.'s name is not mentioned. Your readers who may be curious on the subject will find an account of Dr. B.'s case, written by himself, in No. 21 of vol. 1 of the *New York Med. and Surg. Reporter*, edited and published in this city in 1846, by Dr. Clarkson T. Collins, which we republish for their edification.

W. C. B.

NEW YORK, Dec. 15, 1868.

"Early in the month of July, 1828, while riding in a neighboring town (New Hartford, Oneida Co., N.Y.), my eye fell upon a man whose appearance indicated the loss of his nose. I called him to me, and found that such was the fact. After a hasty examination he was informed that a surgical operation might be with some probability of success performed, which would, to a considerable extent, remedy the deformity caused by the privation. The nature of the operation was briefly explained to him. As he seemed to listen to the proposition, he was also told that if after due consideration he should be disposed to have the experiment tried, I would undertake it. Having fully made up his mind, he presented himself on the eighth of that month, and demanded that the operation should be forthwith performed. Both alæ, with the exception of a very small remnant of the right, which stood out from the surface about one-twelfth of an inch, and the whole cartilage of the nose, were gone. A part of the right and the whole of the left nasal bone, and the anterior extremities of the inferior and middle turbinated bones, and a considerable portion of the septum nasi, had been likewise destroyed. About two years before the sores were completely healed, since which the parts have remained perfectly sound.

Being an intelligent and tolerably well educated man, he entirely comprehended the nature of the operation which was now more fully explained to him in the detail, and declared that he was willing to undergo any amount of suffering consistent with the preservation of life (and even that he was not unwilling to jeopardize, for it had long been a burden to him), which might be necessary for even a partial removal of the deformity which had shut him out from society and blighted all his prospects, present and future, for it had made him a drunkard. The promise made and the pledge exacted, the operation was performed in the following manner:

A piece of paper or pasteboard, which was to serve as a model in size and shape for the nose to be manufactured, was prepared and fitted, and the parts, upon which the new organ was to be engrafted, denuded. What remained of the right ala was nearly all pared away before a proper surface could be formed. On the left, about the same distance from the mesial line as that occupied by the remnant of the right ala just described, a groove of about two lines in width and one in depth was made for the reception of the margin of the flap to be brought down from the forehead. Some calculation was also made respecting the length, direction, and size of the pedicle by which the flap was to be nourished until union with the parts to which it was to be attached was so far perfected as to furnish

adequate support; and, for the more certain attainment of that object, it was furthermore designed that the pedicle should include the left angular or frontal artery, whose faint pulsations could be just perceived. It was also intended that the direction of the pedicle should be such that the cicatrix would occupy as nearly as possible the left perpendicular wrinkle, which, like its fellow on the right side, extended down to the root of the nose between the eyebrows. It was moreover determined to take the flap from the left side of the forehead, midway between the left eyebrow and the hairy scalp. The design of this was to have the lower part of the cicatrix that must remain exposed, correspond as nearly as might be with the wrinkle on the opposite side, and its upper portions extending towards the scalp covered by the overhanging forehead. Another reason for taking the flap as above described was that in bringing it down the torsion would be less than if it had been taken from the middle of the forehead. The paper form was now laid upon the forehead, and an incision corresponding in shape, was made all around it except on the side next the nose. In making this incision, due allowance was made for the shrinkage of the flap, which it was thought might follow its entire separation. Although this supposition, based on no experience or information, was altogether gratuitous, yet the result proved that the precaution was not entirely unnecessary, for if it had not been adopted the subsequent contraction might have defeated the end in view; or at least have rendered the result much less satisfactory than it proved to be. The flap was now detached, and as soon as the oozing of blood from it and the denuded surfaces had entirely ceased, the edges of the former were applied to the latter, and there confined by means of five or six sutures, interrupted or twisted according as the one or the other was found to be most convenient. The pins used for the twisted sutures were fine cambric needles curved or straight to suit the place of application, the points were made to penetrate only just so far through as to make room for one or two turns of a thread around them. In the application of the sutures great care was taken not to strangulate the intervening portions of integument, that sloughing and absorption might be avoided. To some of the spaces between the sutures strips of silk cloth thinly spread with the best English adhesive plaster were applied. The lips of the wound on the forehead were now brought as much in contact as possible, and retained by means of sutures and adhesive straps, and we were not a little surprised and gratified to see how much was accomplished in this way, for, when the wound was finally healed, the scar was much less than had been anticipated. The operation was now finished. During the progress of the cure the parts were carefully watched, and caution taken to prevent undue inflammation, and also any accident which might disturb the process of adhesion. The patient, with his hands secured, was directed to spend his nights in an easy chair, while a pupil watched him during sleep, to preclude all chances of accident.

"On the fourth and fifth days from the operation, the sutures were all removed, the process of adhesion having so far advanced that the sticking plasters were exclusively relied on to keep the parts in contact, while the precautions just mentioned were continued until the union was complete. On the twenty-third (fifteen days from the operation), the pedicle was divided at the point near its junction with the forehead, and turned down towards the end of the nose, and the integuments on the left side slit open and turned aside, and that portion of the pedicle which still made a part of the adventitious nose, after having been pared and shaped so as to make a good substitute for the left nasal bone that had been destroyed, was nicely fitted into the slit, and confined there by passing a fine cambric needle through it and the integuments on each side of it. The union by the first intention between them and the interpolated pedicle was soon completed, and the pin removed. On the first of August, every part of the wound

was healed, and the cure pronounced complete. Although the organ had somewhat of an unusual appearance, yet the union was so perfect, and the deformity so far removed, that persons doing business with the patient would not have suspected that any operation of the kind had been performed. Even his companions sometimes rallied him, saying that the new nose looked much better than the old one, and that he had been improved in appearance by the change. It will be observed that no provision for a septum was made. The reason of this omission was a sort of *a priori* opinion entertained by the operator that it would prove of little use in supporting the part; but might by its contraction rather draw it down than keep it up; and it is believed that this view has been, to a certain extent, sustained by subsequent experience. It is hardly necessary to add that the patient and his friends were highly delighted with the result. Drs. Pomeroy and Burge, of Utica, Dr. Wells, now of Pompey, and several other medical gentlemen, whose names are not recollected, assisted in the operation.

"In the winter following, another operation was performed for remedying a deformity occasioned by the destruction of the lower lip, incisor teeth, and their alveolar processes; a deformity not much less disgusting, and infinitely more troublesome, as will be readily conceived, than that caused by the loss of the nose. In this case the substitute was taken from the neck, and the cure was completed in fifteen or twenty days.

"I have since performed a considerable number of anaplastic operations of one kind or another, all of which were successful, with the exception of one, which was a total failure. Every step of the operation having been accomplished in the most satisfactory manner, no misgivings as to the result were entertained; but gangrene seized upon the flap. Nearly the whole cheek with the alveolar processes in both jaws on the left side having been destroyed by the too free use of mercury, the little girl, who was only ten or eleven years old (too young, I think, for such a operation), had acquired the habit of thrusting her tongue through the opening, from which it was impossible for her to refrain. To prevent that action, which would inevitably disturb, and in all probability, defeat the success of the operation, a silver plate was accurately fitted inside the vacuity in the jaws, by Mr. Gilbert Foster, a very ingenious and skilful dentist of Utica, and this, with the tender age of the patient, was in my opinion, the cause of failure.

"I should now advise the postponement of such an operation to a more advanced age, when the solids of the body may be supposed to have acquired more stamina. In one other case a partial failure was experienced, owing, as I think, to the attempt having been made to fill the deficiency with integument, which had been subjected to previous inflammation, ulceration, and cicatrization. Although the accident had occurred in early infancy, some twenty-five or thirty years before, and the portion of flesh appeared to be perfectly healthy and sound, nevertheless it contracted, and ultimately gave way to a small extent, which prevented the entire success of the operation to the no small regret of both patient and operator, who learned therefrom a lesson which has been of use to him in subsequent practice, by teaching him in anaplastic operations to avoid as much as possible all such materials for filling deficiencies."

#### THE BRITISH TREATMENT OF PRISONERS.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—In several late numbers of the MEDICAL TIMES you have noticed the condition of the Federal prisoners at Richmond. As the London *Lancet* has complacently thanked God that English wars have never been marked by any of the barbarities reported in this country, I desire to call its attention to the following from "*Lossing's Field Book of the Revolution*" These extracts are almost a repe-

tition of the reports from the Southern Prison House. The scene of these barbarities is New York, and the actors the British military authorities in the time of the revolution.

"The 'New Jail' was made a provost prison, where American officers and the most eminent Whigs, who fell into the hands of the British, were confined. Here was the theatre of Cunningham's (provost-marshal) brutal conduct towards the victims of his spite. The prisoners were formally introduced to him, and their name, age, size, and rank were recorded. They were then confined to the gloomy cells, or to the equally loathsome upper chamber, where the highest officials in captivity were so closely crowded together that when, at night, they lay down to sleep upon the hard plank floor, they could change position only by all turning at once, at the words *right—left*. Their food was scanty and of the poorest kind, often that which Cunningham had exchanged at a profit for better food received from their friends or the Commissaries. Little delicacies brought by friends of the captives seldom reached them, and the brutal Cunningham would sometimes devour or destroy such offerings of affection, in the presence of his victims, to gratify his cruel propensities. Thus for many months, gentlemen of fortune and education, who had lived in the enjoyment of the luxuries and the refined pleasures of elegant social life, were doomed to a miserable existence, embittered by the coarse insults of an ignorant, drunken Irish master, or to a speedy death caused by such treatment, the want of food and fresh air. . . . Still greater cruelties were practised upon the less conspicuous prisoners, and many were hanged in the gloom of night without trial or known cause for the foul murder."

"Next to the provost prison, the sugar-house in Liberty street was most noted for the sufferings of captive patriots. . . . Within this gloomy jail the healthy and the sick, white and black, were indiscriminately thrust; and there, during the summer of 1777, many died for want of exercise, cleanliness, and fresh air. 'In the suffocating heat of summer,' says Dunlap, 'I saw every aperture of those strong walls filled with human heads, face above face, seeking a portion of the external air.' At length, in July, 1777, a jail fever was created, and great numbers died. During its prevalence the prisoners were marched out in companies of twenty to breathe the fresh air for half an hour, while those within divided themselves into parties of six each, and then alternately enjoyed the privilege of standing ten minutes at the windows. They had no seats, and their beds of straw were filled with vermin. . . . In messes of six they received their daily food every morning, which generally consisted of mouldy biscuit filled with worms, damaged peas, condemned pork, sour flour and meal, rancid butter, sometimes a little filthy suet, but never any vegetables. . . ."

The condition of the prisoners on board the Jersey prison ship is thus described: "Every morning the prisoners brought up their bedding to be aired, and, after washing the decks, they were allowed to remain above till sunset, when they were ordered below with imprecations, and the savage cry, 'down, rebels, down!' The hatches were then closed, and in serried ranks they lay down to sleep, if possible, in the putrid air and stifling heat, amid the sighs of the acutely distressed and the groans of the dying. Each morning the harsh order came below, '*Rebels, turn out your dead.*'"

Yours, etc,  
T. D.

#### OPERATION OF BRONCHOTOMY.

(To the Editor of the AMERICAN MEDICAL TIMES.)

SIR:—I notice in the AMERICAN MEDICAL TIMES, No. 21, a tabular statement of cases of bronchotomy. Case 6, cedematous glottis from inhalation of steam, is stated to have been operated upon by DR. PARKER. I was then House-Surgeon, and the operation was performed by myself, at Dr. Parker's request. You will much oblige me by mak-

ing the correction, and accord that justice in this trifling matter which has been so accurately rendered to my confrères, DRs. NOYES, WEIR, and RAY.

Yours, etc,

BRADFORD L. B. BAYLIES, M.D.

ASTORIA, I. I., Nov. 23, 1868.

## Army Medical Intelligence.

### ORDERS, CHANGES, &c.

The following Orders have recently been issued from the War Department:

Assistant-Surgeon Joseph H. Bailey, U.S.A., retired, now on special duty with the Governor of New York, will at once repair to Washington, D. C., for the purpose of settling his accounts. On the completion of this order he will resume his duties.

The telegraphic order of the 5th inst., from the Surgeon-General's Office (by order of the Secretary of War), directing the Medical Director at Philadelphia, Pa., to relieve Edward Shippen, U.S.V., from duty at South Street Hospital, and order him to report to Assistant Surgeon-General Wood, at Louisville, Ky., for duty in the field, is hereby confirmed.

Leave of absence until further orders, is hereby granted Surgeon John H. Bayne, U.S.V.

Hospital Steward B. F. Bigelow, U.S.A., is hereby honorably discharged the service of the United States, to accept a position in the U.S. navy.

Acting-Assistant-Surgeon F. H. Patton, 12th Virginia Vols., is hereby granted an extension of ten days to the time heretofore allowed by S. O. 528, Nov. 23, 1868, from the War Department.

Surgeon Daniel Meeker, U.S.V., recently released as prisoner of war from Richmond, Va., will report in person to Assistant-Surgeon-General Wood at Louisville, Ky., for assignment to duty. Permission to delay reporting for twenty days is hereby granted him. (Dec. 8, 1868.)

Surgeon Charles E. Swasey, U.S.V., now on duty as Attending-Surgeon to sick and wounded officers at Frederick, Md., will report in person without delay, for duty, to the Commanding General of the Department of the Missouri, and by letter to Asst.-Surgeon-General E. C. Wood, U.S.V., at Louisville, Ky.

Assistant-Surgeon W. H. Park, 49th Ohio Vols., is hereby granted an extension of ten days to the time heretofore allowed him by Special Orders No. 528, Nov. 23, 1868, from the War Department.

Upon the recommendation of a Board of Officers convened by Special Orders No. 294, July 8, 1868, from this office, the following officers are hereby honorably discharged the service of the United States, on account of physical disability.

Surgeon Jonathan R. Shreve, 90th Pennsylvania Vols.

Lieut.-Col. C. C. Keeney, U.S.A., Medical Inspector, will report in person to the Commanding General of the Department of the Pacific, for duty as Medical Inspector of that Department.

Assistant-Surgeon William M. Notson, U.S.A., now on sick leave, is hereby relieved from duty with the Army of the Potomac, and will report in person, without delay, to the Surgeon-General of the United States Army, for orders.

Leave of absence, for twenty days, on Surgeon's certificate of disability, is hereby granted to Surgeon Enoch Pearce, U.S.V.

The leave of absence granted Surgeon James T. Reeve, 21st Wisconsin Vols., in Special Orders No. 528, Nov. 23, 1868, from the War Department, is hereby extended ten days.

Medical Cadet Joseph R. Draper, U.S.A., is hereby honorably discharged the service of the United States, to accept an appointment as Asst.-Surgeon, 14th Regiment Rhode Island Heavy Artillery (colored).

By direction of the President, the following named Medical Officers are hereby discharged the service of the United States, for incompetency:—Asst.-Surgeon William Wescott, 17th Maine Vols.; Asst.-Surgeon W. H. Jewett, 8d Maine Vols.

Assistant-Surgeon C. O. Wright, 25th Ohio Vols., and Asst.-Assistant-Surgeon W. E. Hosack, 75th Pennsylvania Vols., recently released as prisoners of war from Richmond, Va., will join their regiments. Permission to delay reporting for twenty days is hereby granted them.

The telegraphic order from the War Department, dated Dec. 4, 1868, granting Surgeon J. Simpson, Medical Director at Baltimore, Md., permission to visit Washington, is hereby confirmed.

The Secretary of War has decided, on the recommendation of Colonel E. D. Townsend, approved by Major-General Halleck, that Hospital Stewards are entitled to the same bounty (\$409) as other recruits for the Regular Army.

The new Hospital at Presidio de San Francisco, California, has been announced as a General Hospital. Surgeon John O. Bronson, U.S.V., has been placed in charge.

Surgeon John G. F. Holston, U.S.V., has been assigned to duty as Medical Inspector of Hospitals at Memphis, Tenn.

Assistant-Surgeon Charles H. Hood, U.S.V., is on duty in charge of Contrabands in Hospitals and Camps, at Murfreesboro', Tenn.

Surgeon Edward McDonnell, U.S.V., has been assigned to duty as Surgeon-in-Chief, District of Baton Rouge, La.

Surgeon Henry S. Hewitt, U.S.V., is on surgical duty in the Hospitals at Chattanooga, Tenn.

Surgeon Frederick Lloyd, U.S.V., to duty in charge of Jefferson Hospital, Memphis, Tenn.

Assistant-Surgeon J. C. Nerton, U.S.V., to duty connected with the transportation of sick and wounded men from Kelly's Ferry, Tenn., to Bridgeport, Ala.

Assistant-Surgeon A. B. Chapin, U.S.V., to duty as Executive Officer, General Hospital, Annapolis Junction, Md.

Surgeon S. B. Davis, U.S.V., has been relieved from General Hospital, Leavenworth city, Kansas, and assigned to duty as Medical Director S. W. Missouri, at Springfield, Mo.

Assistant-Surgeon J. W. Leete, U.S.V., and Act.-Assist.-Surgeon H. M' Drach, have accompanied the 3d Maryland Cavalry to New Orleans, La' Assistant-Surgeon James Chapman, 90th New York Vols., is hereby honorably discharged and mustered out of the service of the United States, to date April 31, 1868, he having been appointed Surgeon of the 123d New York Vols.

So much of General Orders No. 38, October 30, 1868, from Head Quarters, Department of the Pacific, as dismissed Assistant-Surgeon Robert Parker, 4th California Volunteers, for violation of the 9th, 45th, and 89d Articles of War, and for conduct prejudicial to good order and military discipline, is hereby confirmed by the President of the United States.

Leave of absence for ten days has been granted to Surgeon W. O. Baldwin, 2d D. C. Volunteers.

Surgeon James Bryan, U.S.V., is hereby relieved from duty in the Army of the Tennessee, and will repair to New York city as Examining Surgeon for Volunteer recruits at that place.

Surgeon James D. Strawbridge, U.S.V., is hereby relieved from duty in the Army of the Tennessee, and will at once enter upon the duties of Examining Surgeon of Volunteer recruits at Philadelphia, Pa.

They will at once report by letter to the Provost Marshal General of the United States for instructions.

By direction of the President, the following Officer is hereby dismissed the service of the United States:—

Surgeon J. E. Quidor, U.S.V., for conduct unbecoming an officer and a gentleman, to date November 30th, 1868.

## Medical News.

PROF. ARMSLY, of Albany, N. Y., recently applied a ligature successfully to the subclavian artery.

DR. P. G. FORE, of Cincinnati, has gone to Europe for his health.

ICE IN SEA-SICKNESS.—Ice is recommended as a sure remedy as well as a prophylactic against sea-sickness. A traveller states that he has tried it himself with success, and that if the stewards of steamers would keep a supply of lemon water ices on board, they would profit themselves and render great service to their passengers.—*Phil. Med. Reporter*.

A MEMORIAL has been presented to the Trustees of the Free City Hospital, in behalf of about eight hundred citizens of Boston, of all professions, asking that a part of the Hospital may be devoted to the practice of homœopathy.

THE VACCINATOR.—This is the name of a new instrument which Mr. W. J. M. Gordon, of Cincinnati, is introducing to the notice of the profession. Quite a number of our physicians have tried it, and every one is greatly pleased with the ingenious instrument. It is constructed as an ordinary spring lancet, except that the blade terminates in a tubal point.

MEDICAL SCHOOLS.—Everywhere, so far as we hear, the medical schools of our country are entering upon a prosperous winter. In this city there is an unusually large number of students already in attendance. The amphitheatre of the Commercial Hospital is crowded at all the clinics. There are between four and five hundred students at each of the old schools of Philadelphia, and we have a like report from the schools at New York city. The Bellevue Hospital Medical College will, we learn, have a class of about three hundred, which is a fine compliment to the energy of this young institution.—*Cin. Lancet & Obs.*

BELLADONNA AND SULPHATE OF ZINC IN WHOOPING COUGH.—M. Garraway contributes to the *London Lancet* his experience with belladonna and sulphate of zinc in the treatment of whooping cough in fifty cases. He reports most excellent results, the cough being brought under control or entirely arrested in periods varying from one to three weeks. His mode of administering these remedies is thus described:—"The mode of administering the belladonna was in the form of extract, either diffused in water with the sulphate of zinc and sufficient syrup to make it agreeable to young children, or to those who were old enough and preferred it in the form of pills—the dose being from one-sixth to one-fourth of a grain of the extract, and one-half to a grain of the zinc, three or four times a day, steadily increasing the amount, till at the end of three weeks children of five or six years old would be

taking from four to six grains of belladonna, and twice that quantity of sulphate of zinc, daily."—*Lancet & Obs.*

BERKSHIRE MEDICAL COLLEGE COMMENCEMENT.—The Berkshire Medical Institution had its annual commencement in November. The Diplomas were awarded to the graduates by the venerable President, Dr. H. H. Childs, and delivered by the Dean, Prof. Greene. We give the names, residences, and subjects of these:—

Kirk H. Bancroft, Lowell, Pneumonia; Maurice K. Bennett, Burlington, Ct., Gonorrhœa; Charles F. Couch, Pittsfield, Etiology; A. P. Folsom, Oldtown, Me., Exercise; Wm. H. Graves, New Milford, Ct., Death; Wm. H. Gray, Acton, Scorbustus; E. W. Loveland, South Hartford, N. Y., Importance of a correct Diagnosis; J. F. Niver, Cedar Hill, N. Y., Fractures; C. A. Osborn, Oneida Lake, N. Y., Puerperal Fever; Ralph Sherwood, Fairfield, Vt., Intra-Capsular Fracture Cervix Femoris; David Stephens, Addison, N. Y., Shock; R. S. Turner, Morristown, N. Y., the Human Skin; Frank Whitman, Bernardston, Coxalgia; J. J. Woodbury, North Dana, Dyspepsia; J. K. Draper, U.S.A., Quinia; B. H. Gaskill, Pancoastborough, Ohio, Physiology of Circulation.

Dr. Childs addressed the class with much feeling, complimenting them upon the high rank that they had taken as professional scholars, and invoked the Divine blessing on their future course. The Honorary Degree of M.D. was conferred upon Drs. M. A. Patterson of Michigan, and Jonathan Brown of Massachusetts. The commencement address was given by Dr. Pliny Earle, Professor of Materia Medica, Hygiene and Psychological Medicine. The address was upon the importance of teaching the latter branch of his professorship in American Medical Schools, where it seems to have been strangely neglected—the Berkshire College having been the first, and thus far the only institution to establish a chair for instruction in this, which Prof. Earle justly styled the noblest branch of medical science—that which treats of diseases of the mind. In Europe, it was remarked, it is carefully taught. Prof. Earle treated his subject with the earnestness of an enthusiast, with the feeling of a philanthropist, and with all the ability of a strong and logical mind, thoroughly informed upon the subject discussed. There were no tricks of oratory about the address, but we have rarely followed a speaker with so deep and sustained interest to the close of his remarks. We hope that Prof. Earle will long continue to be connected with our home college.

Dr. Childs read the following resolution passed by the trustees, concerning the death of Mr. I. W. Doten, of the graduating class:—

"Resolved, That the Trustees, impressed with a sense of the worth of Mr. I. W. Doten as a Medical Student of great promise, regret that his removal by death just before graduating, has prevented them from conferring the Degree of M.D. this day, which we should have done with great pleasure."

The alumni anniversary occurred on the previous evening, when a very able oration was delivered by Dr. Noah Cressey of Canaan Center, N. Y., followed by addresses from Professors Childs, Chadbourne, Seymour, and Greene, and Drs. T. K. and Oscar De Wolfe.

The present Faculty of Medicine is constituted as follows:—Henry H. Childs, M.D., President; Wm. Warren Greene, M.D., Dean; Henry H. Childs, M.D., Emeritus Professor of the Theory and Practice of Medicine; Timothy Childs, M.D., Professor of Military Surgery; Corydon L. Ford, M.D., Professor of Anatomy and Physiology; William P. Seymour, M.D., Professor of Obstetrics and Diseases of Women and Children; Wm. Warren Greene, M.D., Prof. of Principles and Practice of Surgery and Clinical Surgery; Paul A. Chadbourne, M.D., Professor of Chemistry and Natural History; Alonzo B. Palmer, M.D., Professor of Pathology and Practice of Medicine; Pliny Earle, M.D., Professor of Materia Medica, Hygiene and Psychological Medicine; E. B. Lyon, M.D., Demonstrator of Anatomy and Prosector of Surgery; A. J. Bigelow, Prosector to the Prof. of Military Surgery; Edward H. Sexton, A.M., Clerk of Clinique.

## Original Lectures.

### REMARKS—ON A NEW INSTRUMENT FOR LARYNGOSCOPY, RHINOSCOPY, AND FOR OPERATIONS IN THE ORAL CAVITY.

By LOUIS ELSBERG, M.D.,

LECTURER ON DISEASES OF THE LARYNX AND THROAT IN THE UNIVERSITY OF NEW YORK.

(Read before the New York County Medical Society, Nov. 2d, 1868.)

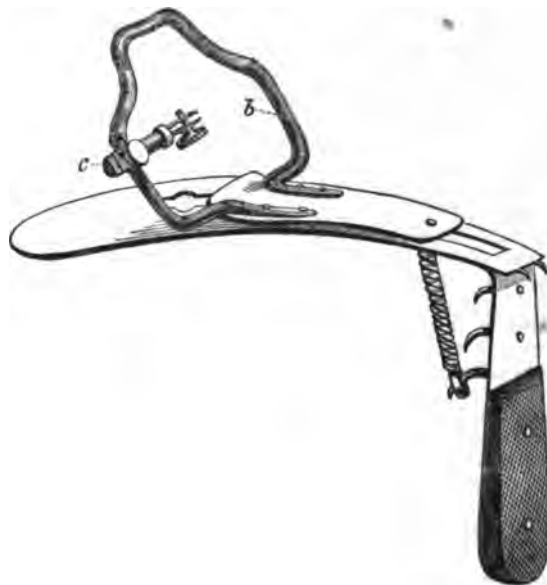
I DESIRE to bring to your notice a new instrument, a tongue spatula, or rather speculum faucium, and to demonstrate its use for laryngoscopy and rhinoscopy, as well as in operations in the oral cavity. The tongue spatula is one of the unfortunate surgical instruments which almost everybody who has used them to any great extent, has found fault with, and modified. Without an attempt at exhaustive research, I have gained from various sources information of over fifty different kinds; and of the majority of these I can truly say that an ordinary spoon-handle serves the purpose just as well, if not better. Not going further back than to within the last twenty years, I have found that the publication of Green's "Treatise on the Diseases of the Air Passages," in 1846, in which it was claimed that a sponge-armed probang could be thrust at will into the interior of the living larynx, gave quite an impulse to the endeavors to construct a suitable instrument with which the tongue might be so much depressed, and at the same time drawn forward, as to reveal the upper edge of the epiglottis. Before the impetus thus given had subsided, the introduction of the laryngoscope by Czermak, in 1858, offered another and still stronger inducement to devise a proper tongue-spatula. The names that have been applied to it have varied, according to the modesty or fancy of the inventor or modifier, from the dignified and much promising one, "Speculum," or even "Laryngoscope," to the simple but truthful one, "Depressor." To render an account of all the various kinds proposed, would be a difficult and unprofitable, even were it a possible, task.

It is desirable to have some means of assisting the patient in keeping his mouth open; 2. To hollow out the oral cavity posteriorly, and press the tongue forward and upon the very floor of the mouth without depressing its attachments with the larynx; 3. To have the blade for the tongue adjustable at different lengths; 4. To have some arrangement attached to hold the mirror in operations in the interior of the larynx, or the palate-hook in rhinoscopic investigations, etc. On the other hand, it is undesirable to force or keep the patient's mouth open by main strength; 2. Either to let the tongue slip over on the sides of the instrument, or rise back, and thus obscure vision and interfere with instruments in operations on the tonsils, uvula, in the pharyngo-nasal space or larynx,—or to pull on, constrain, or press upon it, so as to give the patient pain; and finally, it is undesirable to have the apparatus a complicated one.

A tongue-spatula with all the good qualities to be found in others, and possessing the desirable features without the objectionable ones just mentioned, is certainly a great desideratum. And, in presenting to you an instrument which I believe to supply such as I want, I wish you particularly to notice the points in which it differs from those hitherto in use.

A somewhat ladle-handled curved metallic blade, six and a half inches long, on its lower surface a little hollowed out laterally and roughened—with a handle, partly of metal and partly of hard rubber, attached at right angles, constitutes the tongue-piece. Two inches from the rounded free end of the blade an opening commences which is two inches long, and in which easily slides a button carrying a strip of metal, which plays flat upon the blade, and may also in any position be raised to an angle of at least 45°. Two upright-bent wires, constituting the mouth-keeper, covered above with india-rubber tubing, are firmly attached to the nearer

end of this metallic strip, at an angle of about 180°, so that, on elevating the further extremity, the wires lie flat upon the blade and vice versa; to this extremity there is fastened either a band of india-rubber webbing, or a spiral spring. If the webbing is to be used exclusively, nothing but two or three strong pins, inclined downwards, projecting from the junction of the tongue-blade and handle, are needed to fasten it; while a longitudinal opening, commencing at this junction and extending two inches upon the blade, and hooks projecting from the inner side of the handle, are used to secure the spiral spring. I have had instruments with both arrangements constructed, and in the spatula represented in the cut, either the webbing or the spring may be employed. Attached to one of the upright wires is a little fork (of which a glance at the figure gives a better idea than verbal description might convey) intended to hold between its fangs the handle of a mirror-hook, or any other instrument desired to retain in the oral cavity.\*



In the first place you will observe it is very simple in its construction;† the manner of its use is obvious on inspection. Next, you see that the blade for the tongue can be lengthened and shortened; its shape is that proposed by Czermak, which experience has shown to be best suited for its purpose; and sufficient power can be exerted with it to smoothe down muscles rebelliously inclined. Then, the mouth-keeper does not, in spite of the patient, force the mouth open, but assists him in keeping it so—supporting the parts in that position so as to give some rest to the muscles which would otherwise have to be constantly exerted. On strongly calling the will into antagonistic action, the patient can shut his mouth almost completely, and this very consciousness in great part overcomes the instinctive opposition to the touch of instruments in the fauces. As soon as his will relaxes, the instrument by its elastic spring-power tends to keep the mouth open again. The width of the mouthkeeper is altered with the utmost ease by simply pressing the wires nearer together, or stretching them further apart, while a new piece of india-rubber tubing may as easily be slid over them for every new patient. The laryngoscope (palate-hook, etc.) holder conveniently fixates an instrument in any position, and allows it to be easily and quickly removed and replaced, so that the operator may have both hands free. Finally, the tongue-blade can easily be freed from the mouthkeeper and mirror-holder, and used also alone like the common tongue-spatula; or the mouthkeeper can also be used alone, or to-

\* The instrument is made by Geo. Tiemann & Co., 63 Chatham street.  
† The wood-cut makes it appear much more complicated than it really is, on account of representing in one both its forms.



gether only with the mirror-holder (which I frequently do, letting the patient hold his tongue, horizontally protruded, with his own fingers, gloved or guarded with a handkerchief or towel) so that the apparatus is really adapted to many different ways of employment, despite its simplicity of arrangement.

When carefully introduced I have found (and, indeed, with some surprise) that patients have well borne this instrument whose throats are excessively sensitive. Certainly, in all cases where the mouth has to be kept open any considerable length of time—whether for purposes of examination or operation, and whatever portion of the oral cavity, fauces, pharyngo-nasal space, larynx, or of any organ that can be reached from the mouth, is involved—the advantages it offers must at once strike every practical mind.

To apply it, push the mouth-keeper as far forward upon the spatula, and make it lie as flatly upon it as possible; be careful to introduce it well into the mouth, and to have the tongue properly under it; direct the patient to open the mouth as far as may be required for the particular object of the application; advance the spatula towards the base of the tongue, and fasten the spring or india-rubber webbing.

Both in applying instruments, and in all laryngoscopic examinations, the patient's attention must be specially called to his constantly exerting his will forcibly to protrude his tongue; the holding alone is else not sufficient.

Properly placed, and with a sufficient amount of natural or artificial light—with or without concentration—entering the oral cavity, this apparatus brings the whole of the fauces more thoroughly into view, on direct inspection, than any other instrument, or combination of instruments, of which I have any knowledge. *It freely reveals, in the majority of cases, at the first sitting, the whole anterior surface of the epiglottis.* For indirect or mediate inspection a little mirror, such as I here present, is needed in addition. This constitutes the laryngoscope. When it is duly held against the uvula—having been previously warmed, to prevent its tarnishing from the breath—the larynx, trachea, and bifurcation of the latter into the right and left bronchi are distinctly seen. With the further addition of a little hook (such as I here show you) to hold, as occasion requires, the uvula and soft palate out of the way, the apparatus reveals, on mediate inspection in the same little mirror—previously warmed as before, and now turned upwards—the posterior surface of the velum and upper posterior wall of the pharynx, the orifices of the Eustachian tubes, and Rosenmüller's fossa, the posterior nasal septum and nares, the turbinated bone and turbinated processes of the ethmoid bone, in short, the whole pharyngo-nasal space (bounded on the sides by the pterygoid processes of the sphenoid bone; in front by the nasal fossæ, above by the body of the sphenoid bone, and behind by the basilar portion of the occipital bone and upper cervical vertebræ), under favorable circumstances, to the covering mucous membrane of the nasal bones, and of the plate of the ethmoid. If, instead of the palate-hook, we add to our little mirror and other apparatus a forceps, such as I here present, we have the outfit for œsophagoscopy. This renders the dilatation of the œsophagus necessary, and although I have experimented on two or three individuals for this purpose, I have not yet succeeded in obtaining a good view into the œsophagus, except at its commencement. That œsophagoscopy can be accomplished, however, even if but to a limited extent, has been proved by the practice of Lewin in Berlin, and Semelwider in Vienna.

And now I shall proceed to demonstrate the application of my speculum faucium, and with it the laryngoscopic and rhinoscopic methods, upon some of the gentlemen present.

## Original Communications.

### GLYCOGENIC FUNCTION OF THE LIVER,

By HOWARD TOWNSEND, M.D.,

PROFESSOR OF PHYSIOLOGY, ALBANY MEDICAL COLLEGE.

SOME months ago we sent to you an account, which you published, of an experiment performed to detect the glycogene in the liver of a man who died five or six hours after having been injured by a railway accident, having been, up to the moment of the accident, in robust health, but in which case we were unsuccessful in discovering any liver sugar, or even glycogene.

Having again performed a similar experiment, wherein the success has been decided, and now, like Archimedes, being able to exclaim "Eureka!" we have thought a brief account of it might not be uninteresting.

There has lately occurred a terrible affray in a bar-room in our city between two desperate characters, resulting in the death of one of the combatants, who was shot through the heart by a ball from a pistol in the hand of his opponent.

The man, who died almost instantaneously, was in his physique like a Hercules, some 35 years old, and a magnificent specimen of robust health and strength, and, as with most of his fraternity—coming from a class commonly called *roughs*—he drank deeply, and intoxication was one of the exciting causes of this fatal quarrel.

The autopsy at the coroner's inquest was performed by Dr. Swinburne, of this city, aided by Dr. Barker, Prof. of Chemistry in the Albany Medical College, to whom we are indebted for the specimens of the lungs and liver used in the demonstration before the class.

We took a portion of the liver (which, by the way, gave a strong odor of alcohol), and, having chopped it into a pulaceous mass and thoroughly washed it, in order to remove all the blood possible, we boiled it, to coagulate the albumen and to concentrate the liver juice; then, throwing the mass upon a filter, we allowed the fluid passing through to filter again through animal charcoal, when it came out a clear, opaline fluid, pure liver juice. This juice was boiled in a test tube over a Bunsen's lamp, having previously thrown into the juice a few drops of the *cupropotassique test*, which is as follows:—

- 2 parts saturated solution of sulphate of copper,
- 3 " glycerine,
- 4 " solid caustic potash,

when immediately the rich blue color of the test was changed to a reddish fawn-color, because of the liver juice containing sugar, which, having a powerful affinity for oxygen, took from the deutoxide of copper one of its equivalents of oxygen and threw it down as a protoxide, giving the characteristic red fawn-colored deposit.

Had there been no sugar in the liver juice the color would have remained blue, as it did when we applied this same test to the juice extracted from the lung of the same man. Here no change took place, for there was no sugar to deoxydate the deutoxide of copper of the test.

This same result was obtained by Trommer's and the other more common tests, but Kletzinski's is so delicate that it is quite unnecessary to resort to any other.

Such was the result of the experiment not only in the lecture-room before the class, but also again in the laboratory when the experiment was conducted by Prof. Barker, which result was exceedingly satisfactory, for all too well know, who have investigated this glycogenic function of the liver, how rare a thing it is to detect the sugar in the human liver, while it is the common sequence of an examination of the liver of animals. Not but what it is produced in the human liver just as it in the liver of animals,—but in our investigations with the human liver we very rarely have the opportunity to operate upon one in a

healthy condition—as we have had in this case just quoted—consequently sugar is rarely found in the human liver, or to quote Bernard's own words (and as he is the discoverer of the glycogenic function of the liver, we must certainly admit him to be authority): "As to the presence of sugar in the *liver of man*, it is evident that in the greatest number of cases where it has been sought after, it was *impossible to detect it*." (*Leçons de Physiologie*, pp. 182.) And, again, in the same work, he says: "During severe maladies, particularly acute ones, the nutritive functions are seriously impaired, the function of the liver ceases, the liver *producing no more sugar*." Therefore this has been an exceedingly satisfactory experiment, and we may add a conclusive one—though Dr. Pavy, one of Bernard's former pupils, now of Guy's hospital, London, would doubtless differ from us in this conclusion, or at least the deductions from the excellent and most interesting work on diabetes, which Dr. Pavy has lately published, seem to be adverse to Bernard's logical deductions and admirable views in reference to this glycogenic function of the liver.

Though the term Glucose is used for the liver sugar, it is scarcely necessary for us to state that, notwithstanding the latter closely resembles glucose, it is not *identical*. It is a sugar of animal origin, common to all species yet known, and is distinguished from all other sugars by the readiness of its decomposition in the blood. It originates in the tissue of the liver, and is produced by the transformation of another peculiar substance, which is found anteriorly; which substance is in itself produced in the tissue of the liver, and is termed glycogene—from two Greek words, meaning sugar-producing.

The ultimate composition of which, according to Pelouze, is  $C_{12}H_{22}O_{11}$ , which is easily converted into sugar by any of the animal ferments, like that contained in the saliva—ptyalin—or those found in the blood. By these this glycogene is converted into sugar by a catalytic process similar to that which would transform starch under like conditions.

This production of liver sugar is during health's constant process. It is absorbed by the blood from the tissue of the liver, and disappears very soon after entering the circulation, ordinarily not found even in the lung tissue. The precise nature of the changes which it undergoes after entering the vascular system is not known, but according to Lehmann and Robin, it is at first converted into lactic acid ( $C_3H_5O_3$ ), which decomposes the alkaline carbonates of the blood, setting free carbonic acid, and forming lactates of soda and potassa, consequently aiding materially in the respiratory process.

This theory of the glycogenic function of the liver is now so well known, that it is scarcely necessary to attract attention in this manner to it, but we have been tempted to send you this account of our successful experiment, because of the great rarity of detecting sugar or even glycogene in the *human* liver, from the reasons already stated. Though an eye-witness of many of Bernard's experiments "*faites au Collège de France*," it was never our good fortune there to see the sugar extracted from the *human* liver.

## A NEEDLE SWALLOWED,

AND MAKING ITS WAY THROUGH THE WALLS OF THE ABDOMEN.

By FREDERICK D. LENTE, M.D.

SURGEON TO "WEST POINT FOUNDRY."

I WAS called to a little girl, about seven years of age, a few days ago, under the following circumstances: Five months ago, during the month of July, she said to her mother that she had swallowed a pin; but, as no unpleasant symptoms supervened, the occurrence was soon forgotten, and nothing more was heard of the pin until a few days ago, when she complained that, on stooping down, something pricked

her in the belly; and upon feeling with her fingers she discovered what she supposed to be the forgotten pin; upon examining the spot, which was a few inches below the umbilicus, after some manipulation I managed to get the two ends of the substance between two fingers, and, on pressing one end outwards forcibly, the point of what proved to be a needle an inch and a half in length projected through the skin, and was drawn out by a pair of forceps. It was blackened and very brittle. No unpleasant consequences have resulted. In connexion with this case I would call attention to No. 67 of the Pathological Museum of the New York Hospital; a boy's heart, the *septum ventriculorum* of which is transfixed by a needle. It appears not to have produced any serious consequences. The boy died of a wound of the subclavian artery. I knew an old gentleman some years ago, who was engaged in a large mercantile business. He suffered for twenty or thirty years with "neuralgic pains," so they were called, in different parts of the body, for which but little relief was obtained, and from which his constitution suffered very much. One day, while writing in a private room of his establishment, and rubbing his knee, which was, at the time, the seat of one of his neuralgic attacks, suddenly, to his great surprise, the point of a needle popped out of the skin. Before endeavoring to pull it out, he called in some of his clerks to witness the phenomenon. He never afterwards suffered from any of his former attacks; and, at the time I saw him, enjoyed good health.

COLDSPRING, Nov. 19, 1868.

## PERMANGANATE OF POTASH IN HOSPITAL GANGRENE.

By F. HINKLE, M.D., A. A. SURG., U.S.A.

JARVIS GEN. HOSPITAL, BALTIMORE, MD.

I MOST respectfully subjoin another case of gangrene treated since my last report was made, which still more fully confirms the efficiency of this valuable and unprecedented remedial agent in the disease.

\* \* \* \* \*

William Riley, Oct. 20th, private Co. B, 1st N. J. Artillery, received an extensive shell wound of the thigh at the battle of Gettysburg, July 2d, 1863. He was admitted into this hospital July 16th, 1863. His wound progressed favorably until the middle of August, when ulcerative gangrene made its appearance. The whole wound in two days' time was one frightful mass of disease. Solution of the continuity advanced every hour, leaving a wound ten inches long and four in width, commencing just above the trochanter major of the right thigh, and extending backwards and down the external surface of the thigh, exposing the gluteus maximus, vastus, externus, etc., freely; the bone itself was very nearly exposed below the trochanter major. He was treated with tonics, quinia locally; the nitric acid was applied, with charcoal and yeast poultices, for more than eight days. He was one of the first patients taken with it, and the liq. potass. permanganatis was not then used in this hospital. I solicited the surgeon in charge to make special requisition for it. It was furnished by our medical purveyor Surgeon Cox, with great dispatch. The disease had hitherto resisted the use of the nitric acid and nitrate of silver, yeast poultices, &c. Patient's sufferings were very intense; system perfectly prostrated; countenance very anxious and very pale. In addition to his wound, the patient, when admitted, was suffering with chronic diarrhoea, and is now troubled with the same. He was ordered liq. potass. permanganatis  $\frac{3}{4}$  ss., aquæ Oj., wash the wound every three hours, and dress with lint soaked in the same. The pure liq. potass. permanganatis was applied with a hair pencil every two hours, and as the case improved applied less frequently, so that, finally, once or twice the strong wash was only applied. Continued the tonics and diarrhoea medicines. In two days' time the disease yielded, and four days after the gangrene was freed from the entire wound, leaving a bright red granulating surface, with deep cavities

here and there extending in between the muscles. The weak wash was now continued as a simple dressing, and in the early part of November he was able to walk about, his general health also greatly improved. November 2.—The patient has been indulging in the free use of stimulants for the last three days, having gone out on a pass abusing it. This date (Nov. 28th) he was attacked the second time with gangrene. The newly cicatrized wound now presented a dark liver-like appearance, and in twenty-four hours the whole extent of the wound ulcerated as rapidly as though it were melted out with a white hot iron. The strong solution of permanganate of potassa, with constant dressings of the weak wash, was used.

It was again arrested as before, and now, this ninth day of December, is entirely free of all disease; wound is granulating, and cicatrization is going on rapidly.

F. HINKLE,  
Act. Assist. Surgeon.

## OSSEOUS TUMOR OF THE UTERUS.

By J. N. DANFORTH, M.D.

GREENFIELD, N. H.

In making a post-mortem examination some weeks ago, I came across a very curious osseous growth, connected with the uterus. The tumor is of an irregular ovoid shape, measuring two inches in length, and three and one-half inches in circumference, at its largest part. It is inclosed in a firm fibrous capsule, and is attached to the posterior surface of the uterus, half an inch below the fundus uteri, by a short, but exceedingly strong fibrous pedicle. In structure it is exceedingly dense and hard, and appears to be nothing more than an ill-shaped mass of bony tissue. The uterine appendages and body of the uterus are in a perfectly healthy condition; the cervix is slightly enlarged and indurated.

The patient from whom the specimen was taken, died of acute peritonitis, after a short illness. She was upwards of sixty years of age, and had long been noted for her activity, and capacity for "work." In early life she was somewhat troubled with uterine "weakness"—as it was then called—but for many years this had entirely ceased, since which she has had no uterine symptoms whatever. Although for many years married, and in vigorous health, she never became pregnant. The tumor has every appearance of an old growth, and has probably been connected with the uterus for years. It evidently had no part in the causation of the peritonitis, as that could be clearly traced to over-exertion and exposure. It is difficult to understand how a bony growth, of equal size and weight with the uterus itself, could be thus attached to the organ, without causing displacement thereof, and consequent pain and ill health, especially in a person of more than usually active habits. The case is, it seems to me, in all respects a very singular departure from the laws of pathology, not only as to its causes, but as to its result.

Nov. 18th, 1863.

The Medical Inspector-General of the Belgian army, M. Vlemminckx, has issued a circular to all the army surgeons, informing them that in consequence of the proved efficacy of "*rational hydrotherapie*" in a variety of diseased conditions, he considers the time has arrived for its formal introduction amongst the avowed therapeutical agencies at their command. He therefore induced the Minister of War to send an army surgeon of high repute to thoroughly investigate the matter at M. Fleury's establishment at Schwalbein; and consequent upon his report it has been determined to establish a hydrotherapeutical department at the Brussels Military Hospital, and to accept M. Fleury's offer to superintend the introduction of the method, and illustrate its application by a course of clinical lectures, to commence in November.

## American Medical Times.

SATURDAY, DECEMBER 26, 1863.

1863.

THE closing number of the year suggests a brief review and record of its medical events. They are not numerous or very important, but still they deserve a passing reference.

The meeting of the American Medical Association was perhaps the most important event in civil life. For two years no meeting had been held, and there was danger that professional interest would gradually be diverted from this growing and already powerful organization. But the late meeting was one of unusual interest, and proved that in the future this great national society is to exercise a controlling influence upon the profession in this country. The next annual meeting, to be held in New York city, under the Presidency of PROF. ALDEN MARCH, will be one of the most interesting of its anniversaries.

The progress of the great national conflict largely interests our profession. One of the most important elements of military success is the medical organization, and in the present war we are in a position to recognise it as the most important. The efficiency of armies depends entirely upon the physical force of the individual soldier, and the latter is in the keeping of the army surgeon. If to the medical staff of an army full power and requisite means be given to preserve health, it has again and again been demonstrated that the health of an army may be maintained even in the most insalubrious districts. At an early period of the history of the British possessions in the East Indies, it was difficult for the authorities to maintain the requisite force to hold the country. English troops were swept off by the diseases peculiar to the climate in a frightful ratio. But England learned the value of hygienic means in the bitter experience of the Crimean war, and has latterly given due prominence to them, with the most satisfactory results. In the recent Eastern campaigns of English armies, a degree of health was maintained, though they passed through the most malarious districts, equal to that of the people in England. Our own experiences during the past year are not less striking. The health of many of our army corps has been preserved only by the vigilant exertions of the medical department. Seconded and aided by intelligent corps commanders, the army of the Cumberland, which has achieved such great successes, has been saved from scurvy and other wasting diseases, only through the efforts of the medical officers. Our armies in the South-West have preserved a high degree of health when we take into account the insalubrious districts in which they have operated. But this result has been obtained only as the sequel of the labors of the medical department. We could multiply striking instances of the inestimable value of a well appointed medical staff to the efficiency and success of our armies. But our object is merely to show the necessity that a higher and more influential position be assigned to the medical element in our military organization. We regret to add that there has not only been no advance of the army medical depart-

ment in the favor of Government, but that its position is to-day more anomalous and humiliating than ever. The chief of the staff, the SURGEON-GENERAL, is an exile from his official seat without known cause, and all the affairs of the department are, without preparation or consultation, intrusted to other hands.

Medical Directors who have the power to swell the ranks of the army with stalwart men, still occupy most subordinate positions. Their rank is most inferior, and they have only advisory powers, and even these they are seldom allowed to exercise. Instead of meeting the board of war as an equal in rank with commanders, and adding their invaluable opinion as to the expediency of great movements, they learn only casually of the projected change of position, and merely adapt their plans accordingly. The regimental surgeon, still more isolated, faithfully follows his command to the field of conflict, participates in all its dangers and hardships, but without the slightest encouragement of being rewarded by promotion. He sees inferior officers of the line rise from position to position for meritorious services, but no such distinction ever awaits him, though he spend a lifetime in the army, and serve on a thousand battle-fields.

The medical department of the army has performed its duties faithfully, and deserves well of Government. With wise forethought and commendable discretion it has used its meagre powers for the promotion of the welfare of the army; and with eminent success.

The only change which legislation has effected in the medical staff is the enlargement of the corps of sanitary inspectors. This was a most desirable addition, as it gave greater scope and effectiveness to a branch of the service on which depended in a great degree the health of the army. The new Inspectors were, for the most part, men of good professional reputation, and qualified for their duties. The corps, as appointed, remains intact, with the exception of one member, PROF. F. H. HAMILTON, who left the service in August last. He was succeeded by DR. LE CONTE, who is well known as a scientific man. During the year an important change has been made in the head of this bureau. Medical Inspector-General PERLEY resigned his office, and was succeeded by Surgeon J. K. BARNES. Recently DR. BARNES has been appointed ACTING SURGEON GENERAL, and DR. J. M. CUYLER has been appointed ACTING MEDICAL INSPECTOR GENERAL. These changes in the Department of Sanitary Inspection have added much to the effectiveness of the service.

The past year has been remarkable for the number of original American medical works which have appeared. The greater number belong to army medical literature, and are works of more than average merit. Re-publications have not been as numerous as formerly, and for the most part consist of new editions of old works. The periodical medical literature has shown no improvement. The year has proved unfavorable on account of the advance in the price of material, and the inability of publishers to raise the terms of subscription. Our necrological record is not large, but it embraces some eminent names; WATSON, CAMMANN, HARSEN, HILDRETH, HARTMAN, are among the number of those whose loss the profession at large must sincerely mourn.

## THE WEEK.

VIRCHOW has given to the medical world a new and very important work on "pathological tumors;" the first volume is just out, the second is to follow in February next. In the preface to Vol. I, he says: "I succeeded in fulfilling the immediate object which I had proposed to myself in thirty lectures, delivered during the months of November to March. The prefixed date of the individual lectures will show to those who take an interest in such matters, that even on days when important debates took place in the House of Deputies I always came up to my duty as teacher. For the satisfaction of my friends I may add, that the quiet and often unnoticed labor of the student requires a larger amount of strength and application than the more loud, and in consequence, generally, more grateful activity of the politician, which frequently appeared to me, at least, like a recreation." It may be hardly necessary to add that Virchow was a renowned leader in the ranks of the opposition in the Prussian Chamber of Deputies.

WHILE the Circular of the *Morton Testimonial Association*, asking for the co-operation of New York physicians, is being extensively diffused among us, it is but right to call the attention of the profession to the late suit of "*Morton versus the N. Y. Eye Infirmary.*" Dr. Morton, after having levied tribute upon the New York City and Bellevue Hospitals, applied to the Managers of the N. Y. Eye Infirmary for compensation for their use of his so called "patent," which demand they, under the peculiar circumstances of the case, thought fit to decline. A suit was accordingly commenced by Dr. M. in the U. S. Circuit Court, claiming damages in the modest sum of \$50,000. After hearing testimony, Judge Shipman charged the jury against the claims of the plaintiff, contending that, as ether had been long used in the practice of medicine, the new application of it to the purposes of anaesthesia could not be regarded as a just claim for a "patent." The plaintiff was consequently nonsuited. A knowledge of this fact will hardly tend to advance the interests of Dr. Morton in this region, or to excite for him the sympathies of the Profession.

## Correspondence.

### THE STATE OF THE PROFESSION IN THE COUNTRY.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—A week spent in an interior city of this State during the past summer, suggested the present communication. The city alluded to is situated about the centre of the State, contains a population of over twenty thousand, is one of the oldest, and reputed one of the wealthiest in the Empire State. In visiting such a place I certainly anticipated finding something of professional interest, and witnessing the successful treatment of some of those local affections, which are usually objects of interest to the physician residing in some other section of country. But though the summer was, as I was informed there, one of more than usual sickness, I came away without learning anything of interest. The prevailing epidemic at the time was a very severe form of putrid sore throat, universally styled diphtheria. In the treatment of the subsequent general prostration of such cases, I found the pyrophosphate of iron extolled by some as one of the latest and most valu-

able discoveries of science, and even this, though now so long in successful use, was entirely unknown to several.

From such a visit I have certainly nothing new to communicate, but I wish to make a few remarks on what I suppose to be the prominent causes of such backwardness in this age of professional and scientific progress.

First, I would notice the want of social and professional intercourse amongst practitioners. There were some twenty or more regular practising physicians, well educated, though I cannot say well read, for their education was all of the past, whilst their reading of the later discoveries in science and practice was of the most limited kind. In a few offices I found the "*Medical Times*," in still fewer the "*Lancet*," while many were wholly strangers to any of the medical publications of the day. With such a large number of physicians there was no professional society, where an interchange of ideas and experience would create and sustain that taste for investigation and study so necessary to success. Success, in the more contracted sense of the word, pecuniary, is, it must be admitted, attained in some isolated cases by the most ignorant pretenders. Yet success generally and professional reputation (the dearest object of a well educated physician's ambition) is only attained by unrelenting study. Besides, all agree that there is no profession more slavish or trying than that of medicine when pursued merely as a means of living. The clerk in a store with a fixed salary, or even the daily laborer, whose work ends at six o'clock, may well be envied by the practising physician, who toils both bodily and mentally for a precarious subsistence, from early morning until late at night, and is then subject to the call of any or every one from night to morning, if his profession is not endeared to him by some higher aim and his labor lightened by scientific thought. Much as we may be given to study, when fresh from college, most men will gradually relax their reading and lose that taste, when surrounded by the sterner duties and struggles of life, if not encouraged by the interchange of thought and stimulated by intercourse with others of similar tastes and acquirements. In a city such as that of which I am now speaking, a society, meeting once a week, or even once a month, is more needed amid the drudgery of medical practice than in any other profession in life. It not only excites an interest for the time, but also creates, not simply a taste but a necessity for more liberal reading. Another local peculiarity, which seemed rather strange, was that physicians all kept a large stock of medicines in their offices, and invariably supplied their patients, at the rates of twenty-five or fifty cents, according to the quantity of pills or powders dealt out. This certainly is reducing the profession to the position of mere pill venders, and was rather a humiliating sight. A great part of the physician's time in his office was spent, not in reading, but in compounding nostrums (for in many cases they deserved no other name), but which were ultimately sent out in the crudest forms. On expressing surprise at a medical man's wasting his time in this way instead of sending his prescription to the apothecary, various reasons were assigned. Some said they could not change from the old system, without a loss of practice. Still they confessed that in many cases they never got paid for either advice or medicine. Others said that there were no apothecaries in the city capable of compounding their prescriptions. This led me to inquire into the state of pharmacy in this place. And while I found it backward, as might be expected from the foregoing causes, it compared favorably with the sister profession. On the principal street there were some eight or ten establishments for the sale of drugs, paints, groceries, and what not. In two of them I found the proprietors graduates of pharmaceutical colleges. One had but lately arrived there, and was so thoroughly disgusted with the position of his profession that he was anxious to leave the town. The other displayed in his store diplomas worthy of a better location; and both agreed that cheapness was the only means of securing the patronage of their physicians. It is not surprising that the profession of that city was quite un-

successful in the treatment of disease, and that most of the practitioners were decidedly sceptical as to the efficacy of their remedies. They never reflected that they could not expect much from medicines kept for months at the apothecaries' shelves, and still longer in their own offices.

Cannot suggestions through your columns lead to the formation of medical societies in all cities? I have no doubt; results would in time follow, conducive not only to the immediate benefit of those joining such societies, but also elevating the general status of the profession.

Yours, etc.,  
MEDICUS.

## OUR RELIGIOUS CONTEMPORARIES AND QUACKERY.

(To the Editor of the AMERICAN MEDICAL TIMES.)

SIR:—It is with the deepest regret that we see the so-called religious papers, even some of those who for a long time kept themselves free, now prostituting their columns in the interest of quacks and quack nostrums. It is bad enough that these brazen-faced pretenders meet us in almost every column of our secular papers, but they must also invade those which come into our families under the guise of religion, and are put into the hands of our children.

The real object of most of these universal remedies, when plainly stated, is to cure diseases arising from venereal excesses, syphilis, and among females to remove the results of regular or illicit intercourse.

Where shall we look for an honest support to morals and religion if our best papers desert us?

What is the purpose of the gambling house or hell?—*To obtain money.*

What the purpose of the brothel?—*To obtain money.*

What the purpose of the quack, and his vaunted remedies?—*To obtain money.*

What the purpose of our secular and religious papers, in thus prostituting themselves?—*To obtain money.* And in each case we affirm it is obtained at the sacrifice of right, of truth, of justice.

N. B.

NEW YORK, Dec. 22, 1863.

## Medical News.

MR. BARWELL'S APOLOGY TO PROFESSOR GROSS.—In the London *Lancet* of Dec. 5, we find the following prompt apology of Mr. Barwell. He says:—In justice to Dr. Gross, of Philadelphia, whom I have unintentionally wronged, I must beg space for the insertion of this letter. Dr. Gross has written to me complaining that in a note appended to my third lecture "On Hip-Disease" (*THE LANCET*, Oct. 17, 1863) I had accused him of appropriating some woodcuts from my published works without acknowledgment, and the eminent author points out that in his preface my name is included amongst a list of surgeons to whom he is indebted for a certain number of his illustrations. The statement of Dr. Gross is perfectly correct, and I have done him a great injustice. The fact is, that I had the second volume of his valuable and laborious work in my possession, but not the first. Finding many of my woodcuts used, and no acknowledgment appended, I concluded these illustrations were not acknowledged, and it did not occur to me to look for my name in the preface. In this I was wrong; and I beg to state that Dr. Gross has made all due and necessary avowal of the borrowed woodcuts. I trust that he will pardon the error into which I very unwittingly fell, and which I now most willingly retract.

VIRCHOW's name again occupies a prominent place in the debates now going on in the Prussian Chamber of Deputies. "He spoke in his usual sarcastic and telling style, denouncing the system of warnings and the stupid and ignorant annoyance to which the Prussian Press has been subjected for nearly half a year at the hands of the local authorities."—*Brit. Jour.*

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